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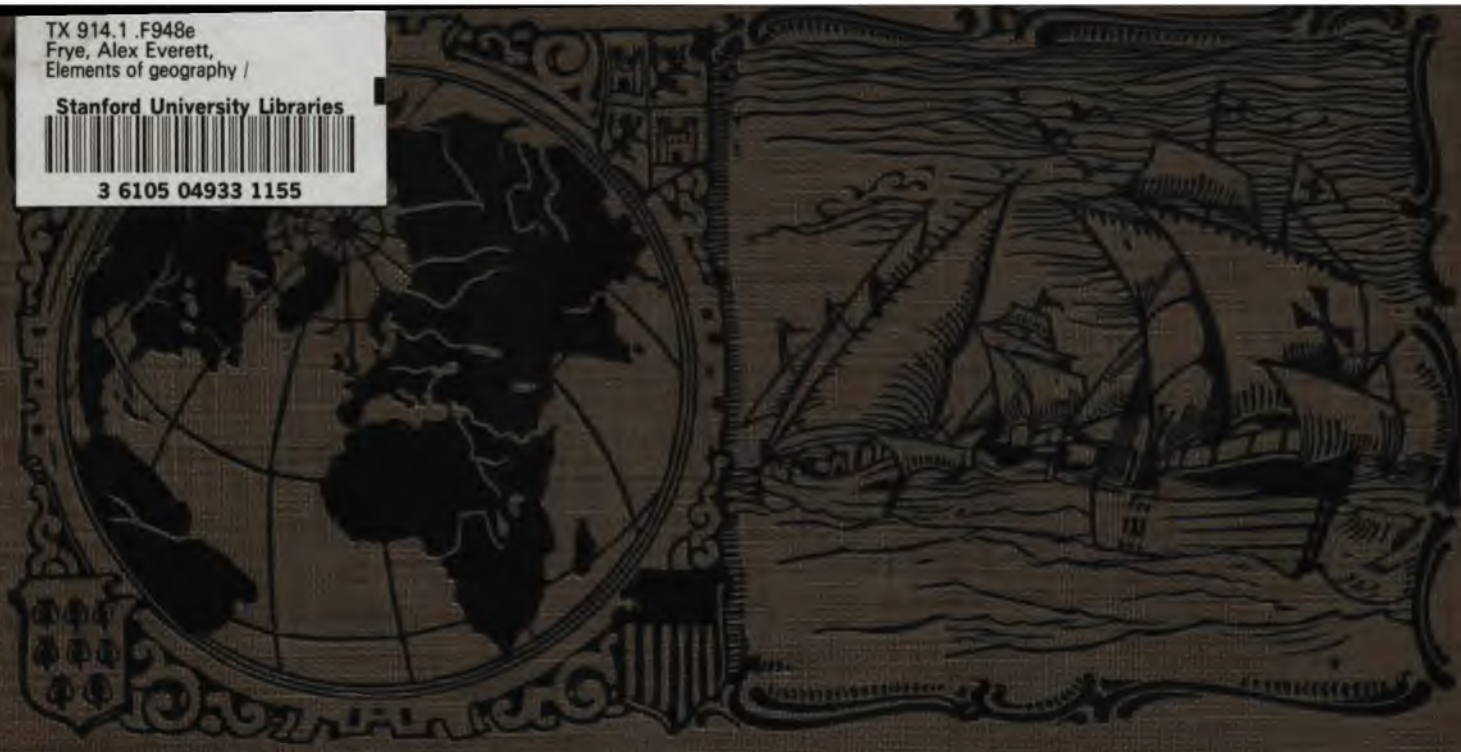

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PREFACE.

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C

Plan. — This book is planned to fit the special needs of schools that lose many of their pupils after one or two years of geography study. It is best suited to the fourth and fifth, or to the fifth and sixth, grades or years, and leads directly to the larger geography. Pages 1 to 114 comprise a *brief primary course.*

People. — The central thought is *Man in his relations to the earth.* Pupils are led to the *homes of the races.* Note in the **Index** the references under *People.*

United States. — Every pupil should know a great deal about his own country, — its physical features, climate, products, industries, commerce, states, cities, etc. More than a fourth of this book is devoted to the United States. *See pages 58 to 79, and 115 to 140 inclusive.*

Commerce. — Special maps and lessons are given on *products and related industries leading to commerce.* These are treated in their relations to climate and natural features. More stress than usual is laid on this subject, because of its influence on national life.

Pictures. — Nearly all the pictures were engraved directly from photographs and are *true to nature.* They present typical forms and *supplement the text.*

Topics. — The work is presented in *topics* in such order as will enable pupils to *reason from one step to another.* Pupils should find out what the text tells about each topic and should be able to state the leading facts, not in the words of the book, but in their *own language.* Teachers should question pupils upon topics.

Examinations should be based on **topics** *broad enough to test thought.*

Unity. — This book holds the *earth as the unit* before the mind and relates all study to that unit. *The memory is thus aided and much time is saved.*

Sizes of Type. — The text in large type calls for closest study. Questions in small type are to be answered by pupils. The text in small type may be used for reading lessons.

Spelling. — In spelling and usage of geographic names, the maps and text follow the rulings of the *United States Board on Geographic Names.*

There has long been confusion in the usage of capital letters. This book adopts what seems to be the best modern usage and allows the capital in *specific names,* such as Rhine and Andes, but not in *class names,* such as river and plateau; thus *Rhine river.* The *United States Board* rules out the apostrophe from names of *places within the United States.*

THE AUTHOR.

BOSTON, May, 1898.

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ELEMENTS

OF

GEOGRAPHY

BY

ALEXIS EVERETT FRYE

Superintendent of the Schools of Cuba

AUTHOR OF "CHILD AND NATURE," "BROOKS AND BROOK BASINS," "PRIMARY GEOGRAPHY" "COMPLETE GEOGRAPHY," "TEACHERS' MANUAL OF GEOGRAPHY," "HOME AND SCHOOL ATLAS," ETC.

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2. Hills and Valleys.

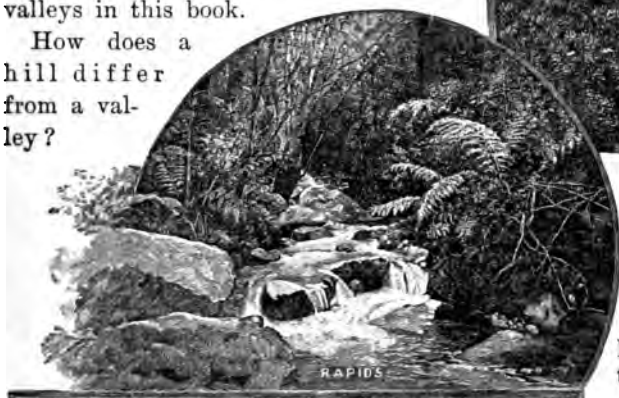
Is there any level land near your school? Where?

Is it exactly level?

Does any water flow across it? Where have you seen a *hill?* Where have you seen a *valley?*

Find pictures of two hills and two valleys in this book.

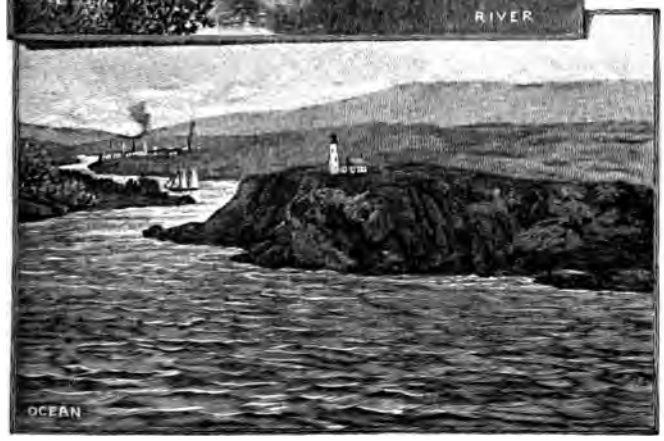
How does a hill differ from a valley?



Find the swiftest part of the stream in the picture.

Can you tell why the water flows swiftly in these *rapids?*

Why does the *river* flow smoothly under the bridge? Into what does the river in the lowest picture flow? Do you know what kind of water is in the *ocean?* Why do the brooks spread over the *meadow* and make a *pond?* Find two pictures of rivers in this book. How does a brook differ from a river?



From Source to Mouth.

3. Brooks and Rivers.

How many *brooks* can you see in the picture? Where does the water in the brooks come from?

4. Slopes.

Any land that slants is a *slope.* The side of a hill, or of a valley, is a slope. Some slopes are gentle, and others are steep.

Where have you seen a gentle slope? Is there a steep slope near your school?

Most brooks that flow among hills are very swift. Can you tell why?

Look at the meadow near the pond in the picture. Do you think that this meadow is just level? Why does not the pond spread out farther?

When a brook runs into a small hollow, it makes a pond. Rivers often flow into large hollows and make *lakes.*

If all the land were level, there would be no hills nor valleys, no ponds nor lakes, no brooks nor rivers.

Find three pictures of steep slopes, and three pictures of gentle slopes.

TOPICS:[1] — Slope; lake; level land.

[1] See note on *topics* in the Preface; also note on *sizes of type.*

5. Kinds of Soil.

Which is the finer, loam or sand? Loam or clay?

Pour some water on loam, on sand and on clay.[1] Into which does the water sink most quickly?

Which dries soonest, the loam, the sand or the clay? Can you tell why?

What becomes of plants that die, and of leaves that fall? Find as many kinds of soil as you can. Put each kind by itself in a bottle.

What kind of soil covers the fields or yards near your school?

Can you find out what is under the soil?

6. Work of Water.[2]

Reading Lesson.

How hard it rains!

The river is swift and muddy. Where does the muddy water come from?

Let us go out on the side of the hill. Can you see the tiny streams or rills which the rain makes? Look closely! They are very small.

Many of the rills are muddy. These are washing away the finest soil. Watch the rills that are rolling sand down the steep slopes.

The rills cannot carry sand very far. They must leave it in the hollows and on the level places. Can you tell why?

What will become of the fine soil that makes the rills muddy? The little streams will carry some of it down to the river. The balloon shown in the picture is floating in the clear air, far above the clouds.

Rainstorm.

[1] A small box of each will answer for the entire class.

[2] WEATHER RECORD. — In a notebook keep a *daily* record of the weather. In the afternoon write whether the day has been *hot*, *warm*, *cool* or *cold*; *clear*, *cloudy*, *rainy* or *snowy*; *calm* or *windy*. Be sure to write the date.

This record will show you how to keep yours.

Dec. 6	warm	rainy	windy
7	cold	clear	windy
8	cool	clear	calm
9	cool	rainy	windy

Keep the record every school day for a year. Perhaps you can also take notes for holidays. At the end of the year you can count and find out which month has had the greatest number of warm days, rainy days, etc.

7. Loose Soil.[3]

Pour some water on hard ground. Wait two minutes, then dig and see how far the water has settled.

With a spade, loosen a little patch of ground and pour on some water. After two minutes, find out how far it has gone into the soil.

Farmers plow in order to turn up fresh soil and to loosen it, so that the rain can easily sink down.

Do you know what frost does to the soil?

8. Rain in the Soil.

When it rains, some water sinks into the ground. It moistens the soil around seeds. At the right season they sprout and grow through the soil.

[3] Home work for pupils who wish to make the experiment.

Indian Corn.

The rain flows among grass roots, and little blades shoot up, making the fields green. The water is taken into the roots of trees. It rises to the buds and helps the leaves and blossoms to unfold. All the time the plants are growing, water in the soil helps to feed them.

Worms grind leaves, and mix them with soil. They bring rich earth to the surface, and make little mounds of it.

Apple Blossoms.

Have you ever watched ants building their hills? Do you know of any place where ants are at work near your school? Where do they get fine earth for their hills?

Mounds made by worms and ants are often dotted over the fields. Raindrops spread these mounds, and carry some of the rich soil down again to the roots and seeds.

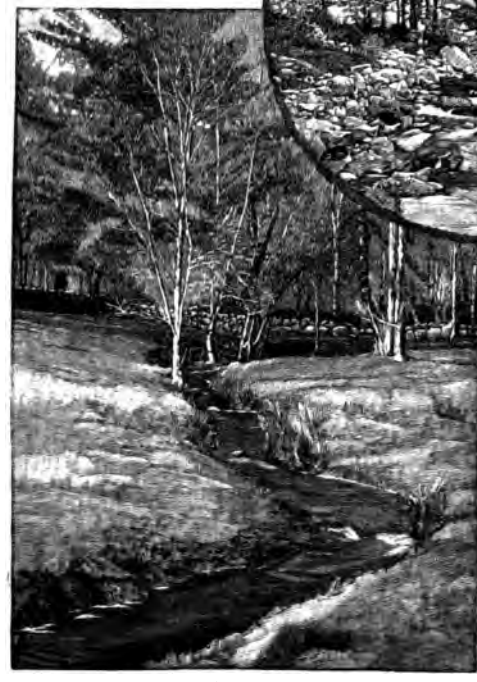
TOPICS: — Work of water in ground; work of worms.

9. How Soil Settles.

Mix fine soil in one glass of water, and coarse sand in another. Let both glasses of water stand for a while, and see what takes place.

Which settles first, the soil or the sand?

Mix fine loam and coarse sand in a glass of water, and let it stand. Which settles on the other, the loam or the sand? Where would you look for fine soil, in the beds of ponds or of swift brooks?



A Brook in a Meadow.

10. Work of the Brooks.

Reading Lesson.

What is the swift part of a brook called? Can you tell why?

Rapids.

Below the *rapids* there is a small pond. This pond is only a wide place in the brook. Rain has been falling, and the brook is muddy. It has a load of fine soil which the rills have brought from the slopes.

Let us throw two or three pailfuls of gravel into the rapids. See what takes place.

The pebbles sink in the rapids, where the water is swift. Some are rolling down the slope under the water. Can you tell what moves them?

Here is the sand below the rapids. Watch it spreading on the bottom. It looks like a great leaf.

Why does the sand settle here? Why did it not settle in the rapids? Look into the pond where the water is still. The muddy water is flowing into it. Let us wait a little while and find out where the fine soil goes. The part of the brook that flows out of the pond is not muddy. It has left the fine soil under the still water. If there

were no pond, what would become of the muddy water? Look once more at the mud on the bottom of the pond.

When it rains again, more soil will be brought down by the rills and brook. In time a little mud bank will form near the place where the brook flows into the pond.

When the water is low the mud will stand above it.

After a long time the soil will fill the whole pond, except where the brook keeps a path or *channel* open. As the new bank of soil grows, grass and flowers will cover it and make it look like other parts of the field.

A Delta at the Mouth of a River.

Thus, water wears down the high land and so makes the slopes more even.

TOPICS: — Rapids; where mud settles; work of surface water.

11. Deltas.

Mud banks that form where streams flow into still water are called *deltas*.

A delta cannot form in water that moves swiftly. The soil is swept away and cannot settle. Most of the rivers in the world flow into a great body of salt water, called the *ocean* or the *sea*. Rivers make many deltas on the shores of the ocean. Some deltas are so large that cities are built on them.

The upper picture on this page shows a delta at the place where a river flows into the sea. The mud has settled in the still waters of the sea and low islands have grown there. See how long and wide this delta is. A river must be very muddy when it can make such a delta.

The largest delta in the world is about halfway round the earth, east or west of our country. There, on the eastern shore of Asia, the Yellow river (*see map on page 89*) has made a delta so large that one fifth of the people in the world make their homes on it.

Several times the river has burst its banks and rushed across this great delta, sweeping away cities and drowning many thousand people. Each year the Yellow river adds more mud to its delta, building the level land farther and farther into the sea.

Do you think that the stream in the lower picture is making a delta? When water pours over a cliff and makes a *waterfall*, the rocks must be washed very clean. The rocky particles are swept away.

TOPIC: — How are deltas made?

12. Water and Heat.

Put a few drops of water into a tin cup and heat it. Where does the water go?

The water in the cup changes into *vapor*. We cannot see the vapor, but it is floating in the air.

A Waterfall.

Heat a small bottle of water over a lamp. What takes place inside the bottle? What comes from the bottle?

Hold a piece of cold glass in the *cloud* that you can see coming from the bottle. Of what is the cloud made? Breathe against a cold window. What is in the breath?

Put a little water into a shallow basin and let it stand in the sun. Where does the water go?

What makes the little cloud that comes from the kettle in the picture on the next page?

13. Forms of Water.

When we put water into a shallow basin and let it stand in the sun, the water slowly changes into vapor and floats away in the air.

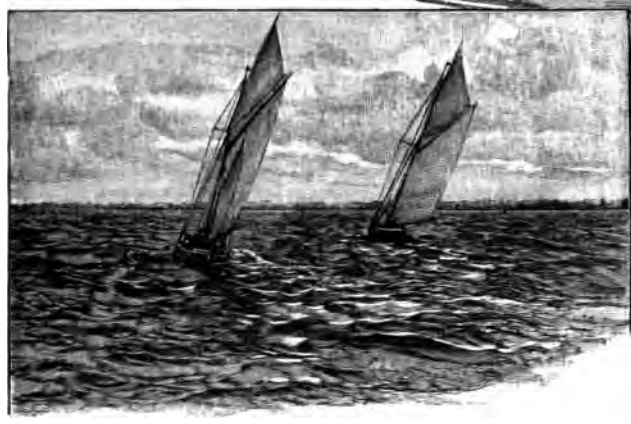
The kettle in the picture is sending out vapor which changes into a little cloud. The vapor is in the clear space near the mouth of the kettle.

Vapor rises from ponds, lakes, brooks and rivers, but most of it comes from the sea.

When the air is cooled enough, some of the vapor in it changes into large clouds, such as we often see floating above us. Fog is a cloud near the earth.

Were you ever in a *fog?* Did it look like *water dust?*

When enough vapor has changed into cloud, some of the particles of water fall through the air. Many particles run together and form drops of *rain.*



Have you ever seen any *hail?* Did it look like frozen rain?

When the air is very cold a part of the vapor in it sometimes freezes into crystals or flakes of *snow.*

If you will catch some snowflakes on a piece of black cloth, you will find that they have very pretty shapes.

At night, when the grass and stones are cold, vapor often floats against them and changes into *dew.*

Breathe against a cold window and against a warm sleeve. Upon which does dew form?

On very cold nights vapor freezes on grass and stones and forms *frost.*

A part of the dew and frost is formed of vapor that rises from the damp earth.

The ice-coat on water forms first at the surface. If the freezing began at the bottom, many lakes and streams would become solid masses of ice. The fish in them would die, and even the summer sun could not melt the ice in deep water.

What are the uses of ice?

Perhaps these words will help you to think of some of the uses of water: kitchen, travel, mill, plant, river, rain, ocean, well.

Topics: — Vapor; cloud; fog; rain; snow; dew; frost; ice; uses of water.

14. Springs.

Why does not rain fill the soil?

Have you ever seen water flow out of the ground?

Is there a *spring* near your home? If there is, tell what it is like. How large is it?

Brooks often flow in dry seasons. In most places the water creeps so slowly through the ground that the supply from one rain lasts till another comes. Thus the springs may flow in dry weather. In very dry spells, or *drouths,* the streams become low or perhaps dry up.

15. Sources of Streams.

The beginning of a brook or a river is called its *source* or *head*. Many springs form at the foot of hills, and also in meadows. Many others bubble up in the bottoms of brooks, ponds, rivers and lakes. Ponds and lakes store up water, and supply it to brooks and rivers long after the rain is over.

Do you see the large brook or river that flows from under the ice? The tops of many mountains are covered with ice and snow all the year.

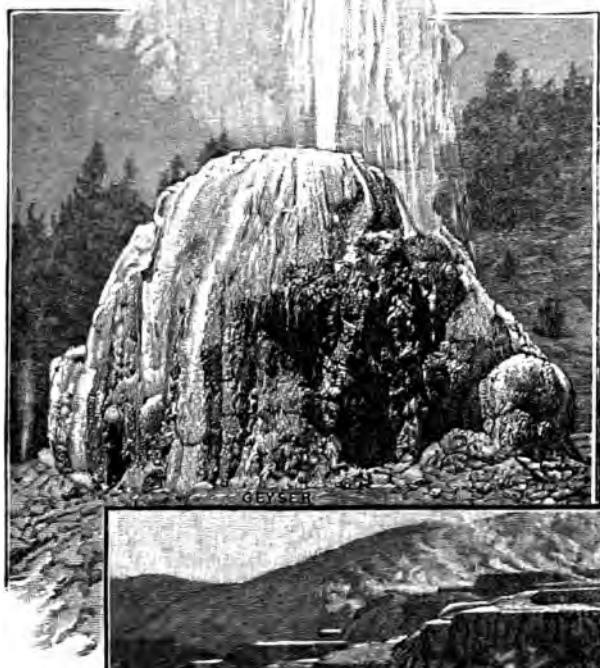
Many streams are formed by the melting ice and snow.

In some places hot water spouts out of the ground and rises as high as a very tall tree. Such a spouting spring is called a *geyser*. There must be a very hot place in the earth under the *geyser*.

From *hot springs* or *warm springs* there is a gentle flow of warm or hot water.

The geyser and the hot spring in the picture are in the western part of our country, in a great park among the Rocky mountains. In the same region are many other springs of the same kind. At the top of page 11 is a picture of one part of this park.

TOPICS: — Source; pond; geyser; hot spring.



16. Where Brooks Flow.

Why do brooks flow in winding lines?

In what direction does every stream flow?

Why are some brooks swift and others slow?

Why is a brook wider in some places than in others?

What are the uses of brooks and ponds?

17. Systems and Basins.

Streams often flow from many small valleys into a large valley.

All the *streams* that meet in one valley form a *system*. A *river system* includes the main river of the valley, and all the rills, brooks and rivers that flow into the main stream.

All the land that sends water to a brook forms the *basin* of the brook. A basin is made of slopes.

Every stream is in a basin. A *river basin* includes all the land that is drained by a river system.

Every large basin is made of many small ones.

Many brook basins send water to one river. A large river basin often includes many smaller river basins.

The Mississippi system drains about a million square miles of land. This vast tract of land forms the Mississippi basin. *See sketch on next page.*

The main stream of this system is the longest river on the earth. It flows over 4000 miles.

River Systems and River Basins.

How does a basin differ from a system? Point to the basins and systems in the two pictures below.

TOPICS: — System; basin.

18. The Top of a Ridge.

Here is a picture of a ridge that rises between

Brook Basins and Divides.

two long, narrow valleys in which two brooks flow.

When the rain falls on the top of this ridge, into which valley does it flow?

What part of the ridge is in each valley?

Point to the line that runs along the very top of the ridge. This line is called a *divide*. It divides the valleys.

Trace the divide round the river basins *A* and *C* in the lower picture on this page.

19. Divides.

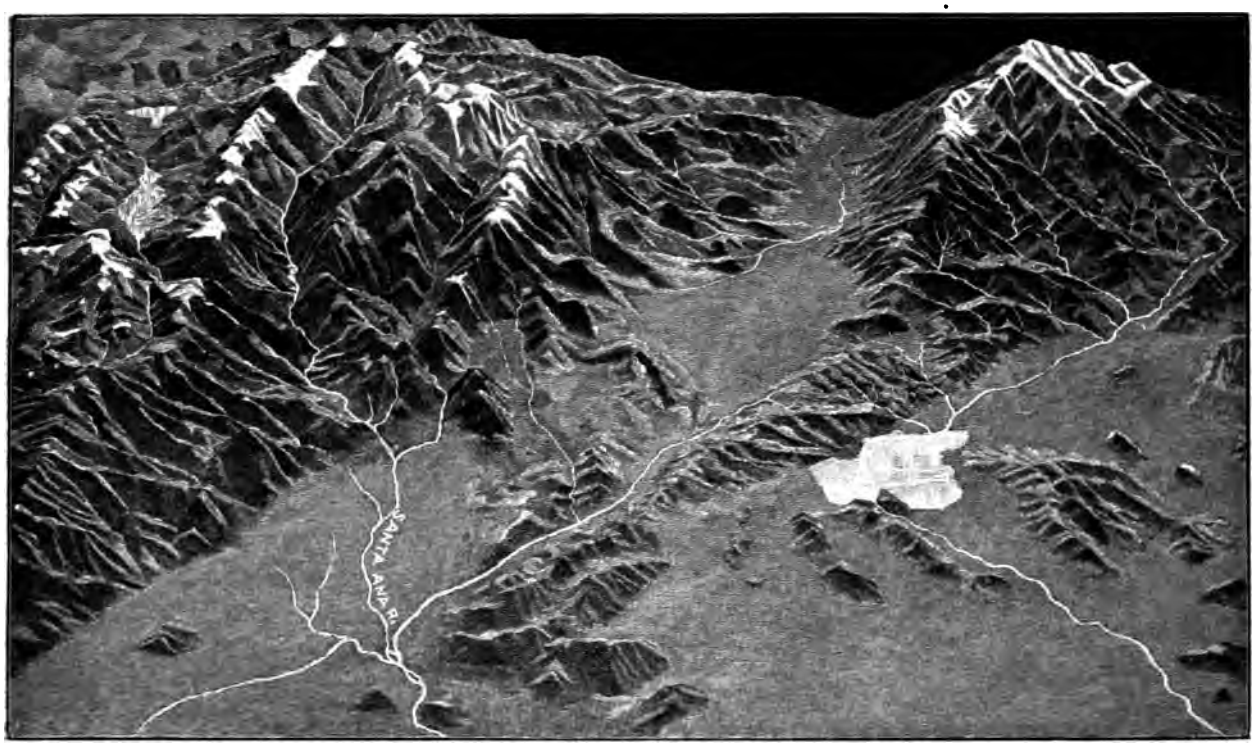
What is a divide?

In the upper picture or map on the next page the slopes of the large valleys begin at the tops of the high ridges.

Each slope starts at a divide. Some divides are on high land where snow lies all the year. Other divides are low, and if it were not for running water it would be hard to find them.

The rain that falls on any slope flows into the valley to which that slope belongs.

A divide is often called a *water parting*.

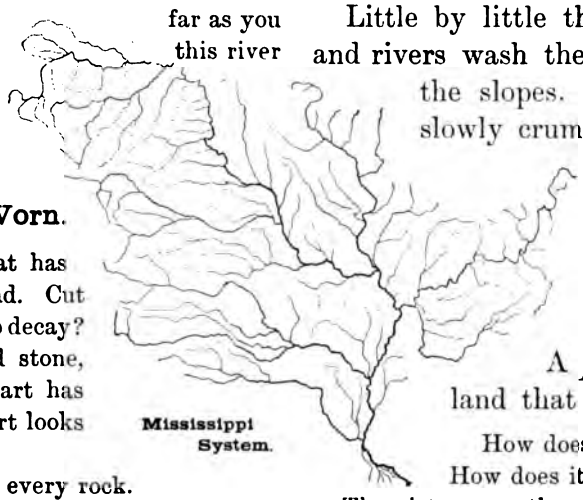


San Bernardino Mountains, Cal. San Jacinto Mountains.

Find on the above picture or map a water parting that is on very high land. Find one on low hills; another on land that is nearly level.

Point as near as you can to the sources of all the streams that flow into the Santa Ana river. All the slopes that send water to these streams are in the Santa Ana basin. Trace as far as you can the divide that bounds this river basin.

TOPICS: — Divide; where found.



Mississippi System.

20. How Slopes are Worn.

Find a piece of wood that has lain a long time on the ground. Cut into it. Has any part begun to decay?

Break open a small round stone, or a large pebble. Which part has begun to decay? Which part looks brightest?

Wood decays, and so does every rock.

All rocks, both large and small, slowly crumble into soil.

Wind blows dust and sand about.

Raindrops wash tiny grains of rock together and make them finer.

Frost splits many rocks, and even wedges off large pieces from cliffs.

Little by little the raindrops, rills, brooks and rivers wash the fine rock or soil down the slopes. Thus, most slopes are slowly crumbling and wasting away.

TOPICS: — Decay of rocks; work of wind, rain, frost; how slopes waste away.

21. Plains.

A *plain* is a broad tract of land that is level or nearly level.

How does a plain differ from a hill? How does it differ from a valley?

The pictures on the next page show several kinds of plains. How level the land looks in the grainfield where the men are at work! Long ago this plain was

under a lake. When the water of the lake flowed off, the muddy bottom formed this plain. The fine mud made good soil, and now this plain is one of the best wheat regions in the world. There are hundreds of old lake bottoms in our country, and most of them are very fertile.[1]

Find the picture marked *lava plain.* Ages ago melted rock, or *lava,* came up from the inside of the earth. The lava spread out, cooled and became hard; thus this plain was made. The lava has decayed a little, owing to frost and rain, but the scanty soil supports only bushes and a few hardy plants. In some lava plains the rock has crumbled into soil.

LAVA PLAIN, IDAHO.

ZAANDAM, HOLLAND.

GRAINFIELD, N. DAK.

RHINE PLATEAU.

RHINE FLOOD PLAIN.

The lowest picture in this group shows a very level tract of land near a wide river. This river flows through countries that have much snow in winter and heavy rains during parts of the year. When the snow melts or the heavy rains fall, the river swells and overflows the low lands. The side streams then bring in muddy water and the fine mud settles over the low plains along the river. Millions of people live on such plains, and they often build high banks to keep the rivers from washing away their houses.

We have learned how brooks formed little deltas in ponds. Many large deltas are made by rivers. One of the pictures on page 5 shows a delta at the mouth of a river. The plain upon which cows are grazing is part of the delta which a river has made in the ocean. Most deltas are very fertile plains.

Some large plains were once under the sea. The smooth sea-bottoms were slowly lifted up to form dry land. We do not know how they were lifted.

How broad and flat some of these plains are! They look level as far as we can see. There are others not so level.

Some plains are so wide that a swift train of cars could not cross one of them in a day.

[1] *To Teachers:* — The Dakota grainfield is in the valley of the Red river of the North. This valley and the area northward were once covered by a lake larger than any now in North America. The map on page 63 shows the Red river.

This lava plain is part of a great lava-flow that nearly covers the basin of the Snake river, Oregon, and many thousand square miles besides. *See map on page 63.*

The Holland delta is part of the great delta of the Rhine. The Alaska delta, shown on page 5, is at the mouth of a stream flowing from under a glacier.

Find the picture of the high plain. See the deep gorge that the river has cut in it.

High plains are sometimes called *plateaus*.

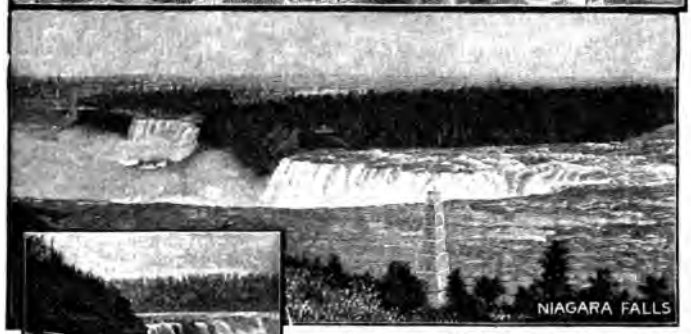
Nearly all plateaus are cut by deep valleys, and many have high mountain ranges crossing them. On page 12 there is a picture of a plateau with deep valleys. Most of the fertile land is on plains, and here we must look for the chief plants that supply food and clothing.

TOPICS:—Plain; plateau; five ways plains are made.

22. Beds of Streams.

The bottom of a stream is called the *bed* of the stream.

We have seen how rills and brooks carry away soil. Swift rivers often wash tons and tons of sand, pebbles and even large stones down the slopes. This rocky matter grinds the beds and thus helps to wear them away. In some rivers, floating ice cuts the banks and beds. Mud, sand and stones are held by ice, and are carried down the streams. Where does the ice leave its load?



With a hammer break a stone into small pieces. What is the shape of the pieces? Are they rough or smooth? Put the pieces into a bottle and shake it very hard. See the grains of rock on the bottom of the bottle.

Most of the stones in river beds are round and smooth. Can you tell what rounded them? Part of the sand in river beds has come from these stones.

What becomes of the fine particles that are worn off the rocks by rivers? After long ages what will become of the rocks that are now in river beds?

Rivers often wear steep places in their beds. A great fall of water over a steep bank is called a *cataract*. A little fall is a *cascade*.

Some of the pictures show water plunging over cliffs. One shows the rocks back of the falls.

TOPICS:—Bed; work of water in river beds; waterfall; cascade; cataract.

23. Mountains.

Mountains are great masses of land much higher than the regions round them.

Which pictures show mountains with sharp tops? How does a mountain differ from a valley? How does it differ from a hill?

Most mountains are made of layers of rock that are tilted and bent. Some are in long even folds. The rock is often hidden under a thin coat of soil.

Mountains Formed of Folded Rocks.

In some places long and deep valleys have been worn in plateaus. The high ridges and points of land that are left standing among such valleys are often called *mountains* or *hills*. For ages and ages, melted rock and ashes have been pushed up from beneath the surface of the earth, or have been blown up by gases. This melted rock is called *lava*.

In many places the lava and ashes are in great heaps that look like mountains or hills.

The mouth from which the lava and ashes came is called a *crater*. A great heap of lava, having a crater, is called a *volcano*. Some volcanoes are over four miles high.

A row of mountains is called a *mountain range* or *chain*.

Point to the picture of a low range of mountains having rounded tops. Find a range with snow upon it. These mountains are so high and cold that snow and ice lie upon them all the year.

Do you think that it would be easy to walk along the divide or top of a range? You would have to climb over the highest points, and cross the notches between them.

The top of a range is called a *crest*.

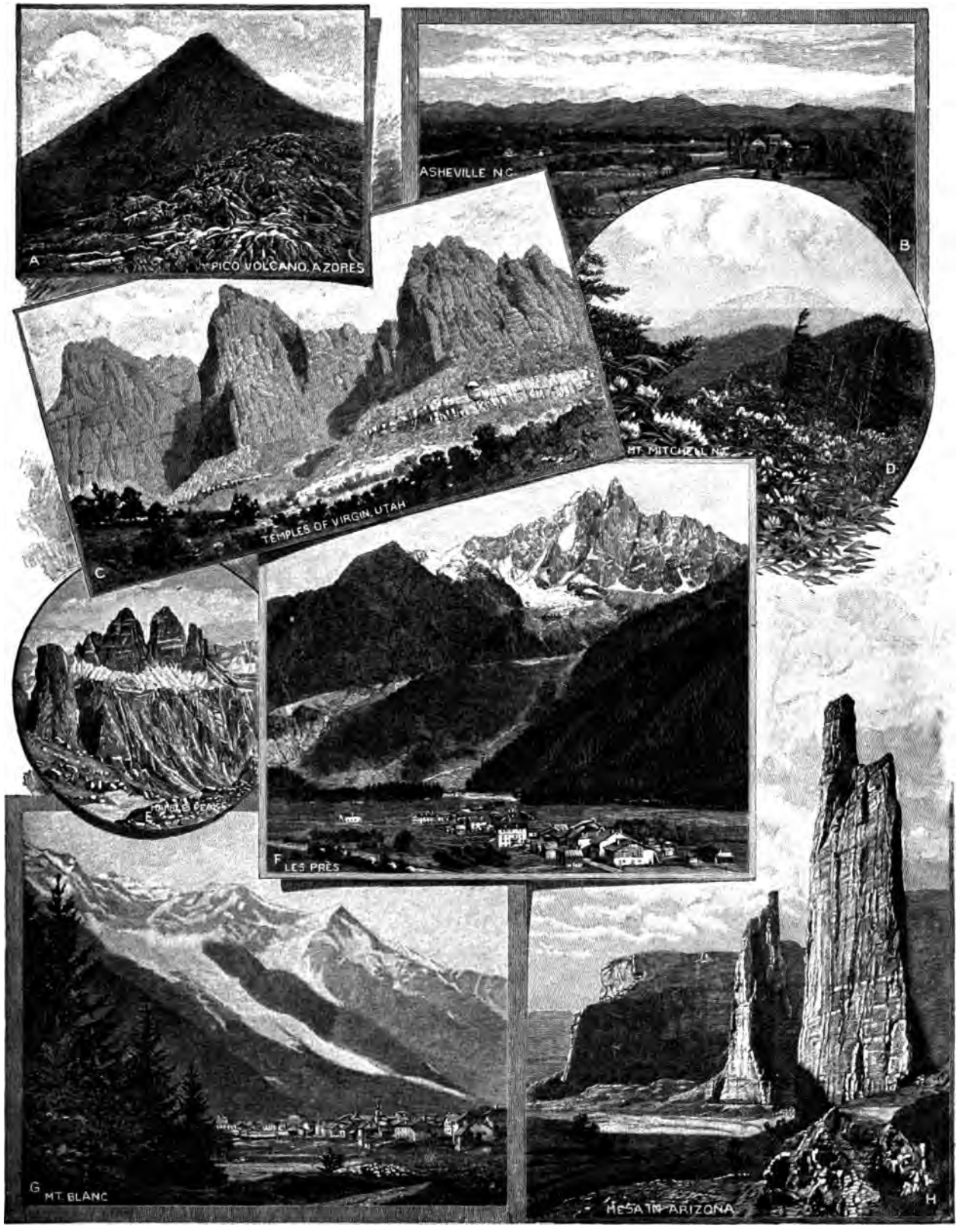
Point as near as you can to the crests of two ranges. Which crest looks like saw teeth? Which looks like waves?

High points in a crest are called *peaks*.

Valleys Cut in a Plateau of Lava (India).

Find six sharp peaks. Find three rounded ones.

Only a few people live on the sides of mountains. The land is rough, and good roads are hard to make. In some places on mountains there is grass enough for cattle and


A
PICO VOLCANO, AZORES
ASHEVILLE N.C.
B
MT. MITCHELL N.C.
D
TEMPLES OF VIRGIN, UTAH
C
E
F
LES PRÈS
G
MT. BLANC
MESA IN ARIZONA
H

sheep, but the soil is generally very poor. Can you tell why?

The roads across mountain ranges run through the low places, or *passes*, in the crests.

Have you heard of the St. Bernard dogs that have saved so many lives in a famous pass?

TOPICS: — Mountain; lava; crater; volcano; range; crest; peak; pass.

24. Valleys.

Is there a wide valley near your school? Is there a narrow one? Which of the valleys in the pictures are very deep? Which have steep sides?

Point to a valley whose sides have gentle slopes. The sides of all valleys are slowly wasting away. Can you tell why?

In some places, deep valleys with steep sides are called *canyons* or *cañons*. In other places they are called *gorges*. The Colorado canyon is in the southwest part of our country. This great valley is cut more than a mile deep in solid rock. Some of the rocks

that form the sides of the canyon are marble of various colors.

The Yosemite valley also is in the western part of our country. It is famous for its steep cliffs and beautiful falls.

Glaciers, or rivers of ice, move slowly down some valleys.

Do you see the ice river in one of the valleys? This ice river, or *glacier*, moves only a few inches a day. When the ice reaches the lower and warmer valleys it melts and forms streams. The river that forms the delta shown on page 5 flows from under a glacier.[1] Some valleys are so wide that we cannot see across them. Some are in low land, and others are in high land.

TOPICS: — Canyon; gorge; glacier.

How many islands can you see in the pictures on this page? Find two *peninsulas*.

How does an island differ from a peninsula? Which picture is marked *high tide?* Which is marked *low tide?* How do these two pictures differ from each other? The water in these pictures is part of the ocean.

Twice each day the water slowly rises on the beach, and twice it slowly falls and lays the beach bare.[3] It takes about six hours for the water to rise, and about six hours for it to fall.

The daily rise and fall of the water on shores is called *the tide.*

Where is the water line at high tide? Where is it at low tide?

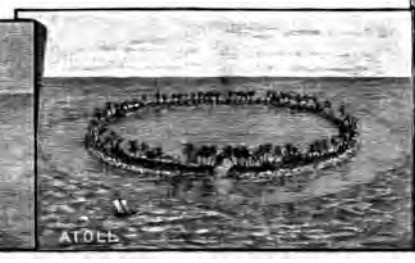
25. Shore Forms.[2]

The word *peninsula* means *almost an island.*

Have you ever seen an *island?* If you have, tell what it was like.

A *cape* is a point of land that extends out into water.

Some capes are high and others are low. Find three capes in the pictures on



[1] This is the Yahtse river, Alaska.

[2] Find all these forms on the map of the United States on pages 60 and 61.

[3] A few places have only one tide a day, and a few other places have more than two tides.

page 15. Find an isthmus. This word means a *neck of land.* Look at the pictures and tell how an isthmus differs from a strait.

A *strait* is a body of water connecting two larger bodies of water. An *isthmus* connects two bodies of land with each other.

A long and shallow strait may be called a *sound.* The name *sound* is also given to shallow bodies of water lying between islands and the mainland.

Some straits are many miles wide and are very deep, but they are narrower than the bodies of water which they connect.

In many places arms of water reach into the land. Some of these are called *bays*, some are called *gulfs*, and others, *seas.*

There are bays, gulfs and seas so wide that swift steamers cannot cross one of them in a day.

How does a bay differ from a peninsula?

Turn to the picture on page 9. If the tide were to rise into these low valleys, where would it first form islands? Where would it form peninsulas?

Can you find a place where there would be first an isthmus and then a strait? In what parts of the valleys would there be the greatest number of little bays?

TOPICS: — Island; peninsula; tide; cape; strait; isthmus; sound; bay, gulf or sea.

26. Work of Water on Shores.

Reading Lesson.

Let us visit the seashore and watch the great waves roll in. How they roar as they tumble over and over! Have you ever bathed in the surf?

What is gravel? Which bank in the picture is made of gravel?

Waves often strike against this bank, and wear parts of it away. Why does the water not make the bank as steep as the rocky cliff?

Where do the pebbles and larger stones on the beach come from?

What becomes of the sand that falls with the pebbles from the gravel cliff?

Find the clay cliff. Where do the large stones on this shore come from? Find a stone on the face of the cliff. When will it fall?

In some places ice rubs against shores and helps to cut and wear them away. Many tons of sand, pebbles and even large stones are held by the ice, and are carried out to sea by it. What becomes of them when the ice melts?

Waves often wash gravel against cliffs, and thus slowly cut them away. Frost splits and loosens the rocks.

Can you see the place where part of a cliff has lately fallen? What will become of the loose earth at the foot of the cliff?

Can you tell what made the caves in the middle cliff?

Find the picture which shows surf breaking over rocks. This rocky ledge was once part of the main shore. After a long time the waves may wear away the whole ledge.

The island in the calm sea is like a low hill which has partly sunk beneath the water.

Have you ever seen seaweed growing on rocks? Which do water and gravel wear away more quickly, bare rocks or the rocks which are under seaweed?

In some places the sand and pebbles that are worn from soft cliffs and beaches spread out and make the water shallow along the shores.

Waves are made by winds blowing over the sea. Strong winds sometimes make waves thirty or forty feet high, from trough to crest. The water in waves only rises and falls, like waves in a swinging rope, but the wave-forms travel forward. The larger they are, the faster they move. In the open sea some waves travel at the rate of more than a mile a minute.

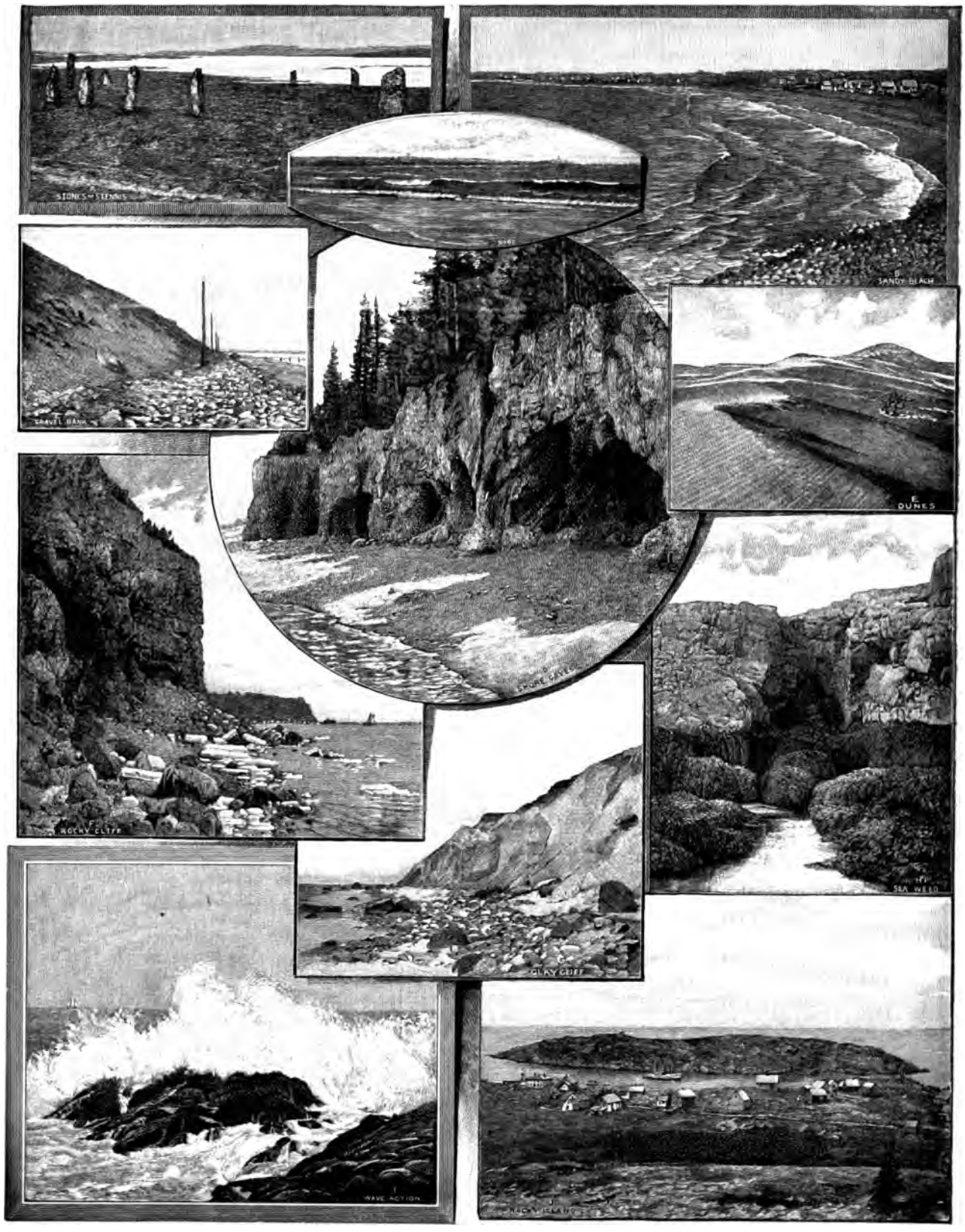
Great waves that roll in from the sea often strike upon shallow bottoms, and wash sand and pebbles up onto the beaches. In some places the wind then blows the sand into drifts, like snow, and carries it far inland. Drifted sand hills are called *dunes.*

Plants sometimes grow in beach sand, and keep it from drifting.

An arm of the sea, or of any other body of water, in which ships find shelter from storms is called a *harbor.* The best harbors have deep water and high shores.

Some harbors are made by building long walls out into the water. These walls break the force of the waves.

Can you tell why deep water is needed? Of what use are the high shores?


SANDY BEACH
GRAVEL BANK
DUNES
SHORE CAVES
ROCKY CLIFF
SEA WEED
CLAY CLIFF
WAVE ACTION

27. Points of the Compass.

Point to the place where the sun rises. How often does it rise?

Where is the sun at noon? Where does it set?

Try to find out at what time of day your body casts the *shortest* shadow on level ground.

Mariner's Compass.

At midday all shadows point *north*, away from the objects that cast them.

Turn your face to the north. Are there any trees, hills or houses north of you?

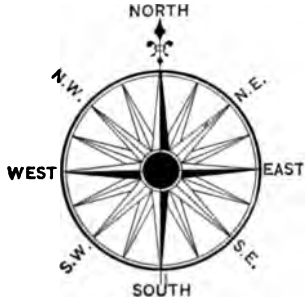
Turn your back to the north. You are now facing *south*. Name some objects that you can see south of you.

When you face the north, *east* is on the right, and *west* is on the left.

The sun rises in or near the east. It sets in or near the west.

Point to the east, and then to the west. Name some objects that are east of you. Name some that are west of you.

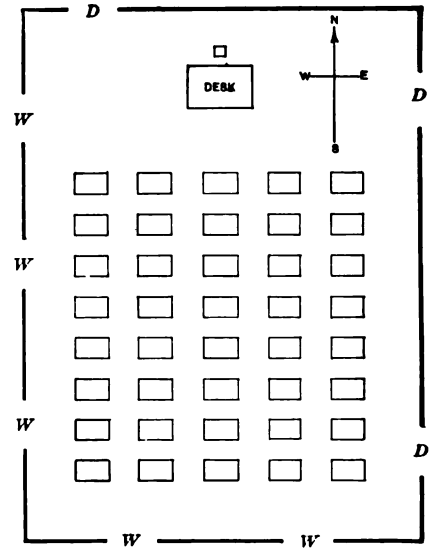
Which is the *north side* of your schoolhouse? Which is the *south side?* Name a building or any other object that is north of your home. Can you name a street or road that runs east and west? Point halfway between north and east. This direction is called *northeast*. It is often written N. E. Where will you look for *northwest?* For *southwest?* For *southeast?* Can you name a street that runs northeast and southwest?



Compass Card.

28. How Maps are Made.

How long is the top of your desk? How wide is it? Draw the top of your desk, making the drawing one eighth as long as the desk.

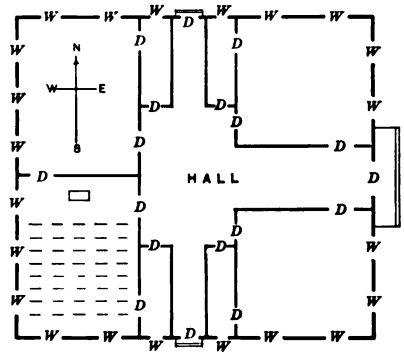


Plan of a Schoolroom.

How long is the schoolroom? How wide is it? Draw the sides and ends of the floor. Let one half an inch on the paper stand for one yard on the floor.[1] Put all the desk-tops in the drawing.

This picture of a schoolroom will show you how to draw yours.

Draw the room again, and let one eighth of an inch stand for one foot. Mark places for windows and doors. Make a drawing or *plan* of the lower floor of the whole building. Use one fourth of an inch for each yard.[2] Make lines to show where all the walls are placed. Mark places for doors and windows.



Ground Plan of a Schoolhouse.

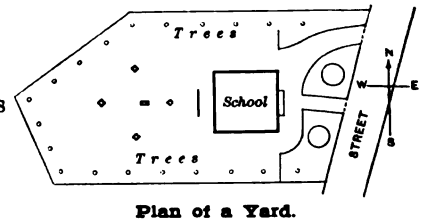
Draw a plan of the same floor, using one eighth of an inch for a yard.

Make a plan of a school yard. Allow one inch for twenty-five feet. Draw lines for the walks and gates. Make dots for trees.

Mark the place where the schoolhouse stands.

A plan of any part of the earth is a *map*. On the next page is a map of a school district. One eighth of an inch was used for fifty yards.

The large map on page 19 is another kind of map of the same district. It is



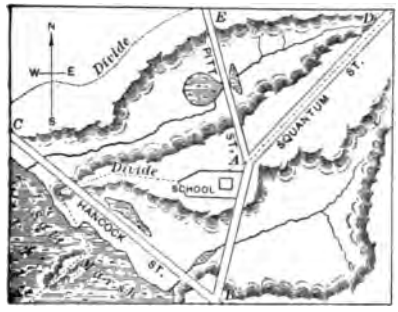
Plan of a Yard.

[1] If the room is very large, allow one fourth of an inch for a yard.

[2] In some cases, teachers may find it necessary to name scales, differing from those given.

called a *relief map*. This map shows the uplands and lowlands, the streams and ponds, the divides and slopes.

On page 61 there is a large relief map of the land in which we live. This map shows what kind of surface each part has, — whether it is a plain or a rugged highland.



A School District.

Make a map of part of your school district.[1] Put in it the brooks, ponds, hills, streets and shores, if there are any.

You can measure distances by counting the number of steps it takes to travel each distance. Call each step a *pace*.

29. Reading Maps.

Let us study the four small maps below, and learn what they show.

Find in map I. the City Hall and Post Office. It takes about two minutes to walk from one of these buildings to the other. This map includes a few streets in the city of New York.

The next map shows the rivers on two sides of the city, with wharves all along the water front.

Can you find the City Hall in map II.? Why is it drawn so small? See how narrow the streets in this map are made.

Map III. includes several cities and towns. In this map the streets are shown by very fine lines. The buildings and wharves no longer appear. See how far New York extends up the Hudson river.

Can you find New York on map IV.? Where is Albany? The distance from New York to Albany is nearly one hundred and fifty miles.

What river flows from Albany to New York? Where are the Catskill mountains? Where is Brooklyn? This is part of the city of New York.

Why are the streets of New York not drawn on map IV.? How are the rivers shown on this map?

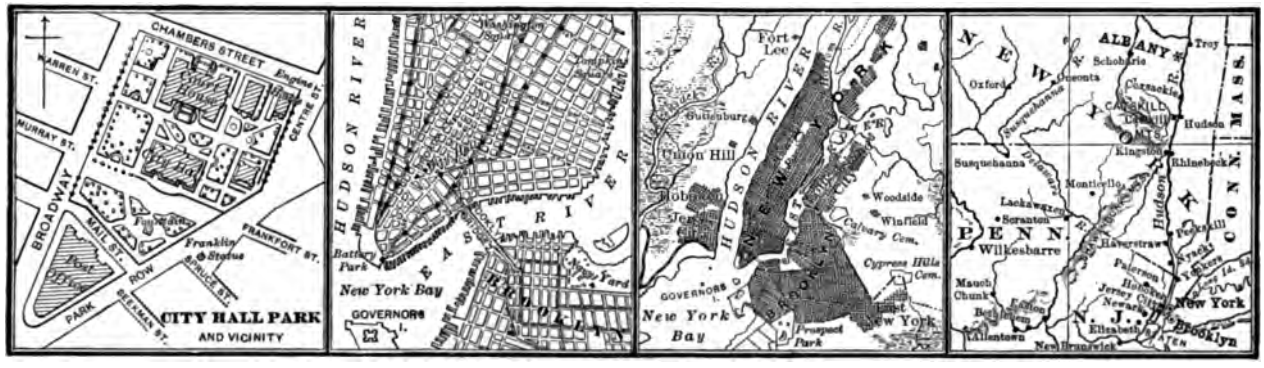
These little maps show how the large maps in this book were made. Can you find New York on the large map of North America? *See page 57.*

This great city is the second largest in the world, but it occupies a very small part of a continent.

Relief Map of School District.

[1] If pupils cannot go outdoors to make a map of their district, the different members of the class can doubtless furnish enough facts for making a simple map indoors. City pupils can make a plan of a park, or of a few blocks or squares near their school.

I. II. III. IV.



Maps of New York and Vicinity.

30. Form and Size of the Earth.

The line on the earth where earth and sky seem to meet is called the *horizon*.[1] The horizon surrounds us on every side.

Were you ever on a high hilltop? If so, did you

The Earth.

see the same horizon that you could see from the lower land?

Which picture shows vessels going to sea?

You can look over the sails of one vessel and see the water beyond. Another is sailing out of sight. Only the sails can be seen. The hull is below the horizon.

Can you see the smoke from the steamer that is below the horizon? If the earth were flat, could vessels go out of sight below the horizon? Which part of a ship would then disappear first?

Vessels on the Horizon.

[1] This line is often called the *skyline*, and the name *horizon* is applied to the circular skyline, as seen on the ocean.

We know the earth is a ball, because many people have gone round it.

If we were far off in the sky, the earth would appear like a great moon, for both are round, and both get light from the sun.

Soap Bubbles.

The moon is a very large ball, but the earth is many times larger. We see so small a part of the earth at a time that it does not look round like a ball.

The greatest distance round the earth, or the *circumference* of the earth, is about 25,000 miles. The greatest distance through it, or the *diameter*, is nearly 8000 miles.

TOPICS:— Horizon; form of earth; proof of form; diameter; circumference.

31. What a Hill is Made of.

The picture on page 21 shows a cut on a hillside. Point to the solid rock. What rests upon the rock?

Upon what does the water flow? What is sand? What is clay?

Of what is the hill in the picture made? What is a pond? What flows

in all brooks and rivers? Have you ever seen any part of the earth that is not made of rock or water?

What do we breathe? What is wind?

Where do clouds form? What comes from clouds?

Where does rain go?

32. What the Earth is Made of.

By far the greater part of the earth is a ball of rock.

This great ball is not smooth. Hills, mountains, plateaus and valleys make rough places on its surface.

The lower parts of the surface of the rocky ball are covered with water. The parts that are above water are called *the land.*

You can see the land all about your school.

We have learned that for ages and ages rocks have been decaying, and streams have been washing part of the fine rock down to the lowlands.

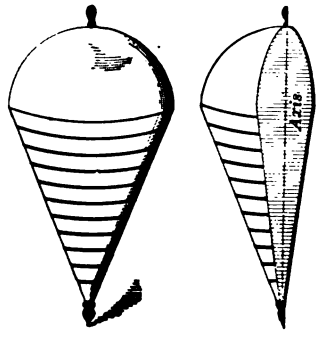
In most places there is a thin layer of powdered rock, or soil, over the solid rock.

Water covers about three fourths of the surface of the earth. The other fourth of the surface is land.

What is under the water? If we picture the earth about the size of an apple, the water will form a layer about as thick as the peel of the apple. You must not think that the water is really a *thin* layer. The earth is very large, and in places the water is four or five miles in depth.

Topics: — What earth is made of; the land; soil; water.

33. The Air.



Drop a small piece of paper. How did it move? Why did it not fall straight down?

Drop another piece. Did it fall like the first? Can you make two pieces fall in the same place? Can you see the air? Can you feel it? Swing your hand in the air.

These words may help you to think of some of the uses of air: bird, ship, windmill, rain, breath, balloon, plant, wave.

34. The Shell of Air.

We live and move in air.

We feel the air about us, we breathe it, and set it at work to drive ships and to turn windmills.

How gentle the air is when calm. How strong it is in angry gales. We do not know how far the air extends above us, but we do know that far up there is only a little air and it is very cold. If we should go up only three miles, many of us would suffer for breath.

Section of a Hill.

The air surrounds every part of the earth, like a shell.

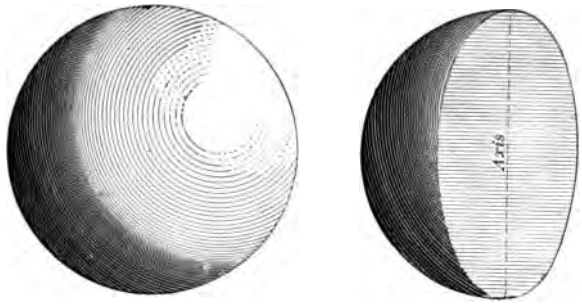
Topics: — Uses of air; height.

35. The Poles.

Find the dotted line in the top. It runs from the head to the peg. When the top spins, every part turns round this line.

We will call this line the *axis* of the top.

The earth has no head nor peg, but it spins like a top. It takes a day and a night to turn once round.

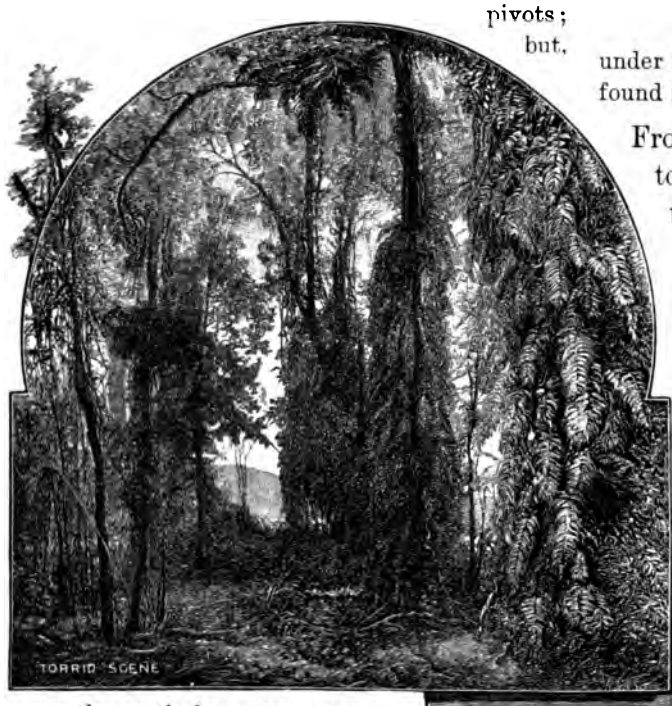


We may *think* of a line in the earth like the axis of the top. It is called the *axis* of the earth. Once in twenty-four hours every part of the earth turns round the axis.

The ends of the axis are called *poles*. The word *pole* means *pivot*, or point upon which anything turns.

The earth seems to float in the sky. It turns on its axis, just *as if* the poles (or ends of the axis) were pivots; but, of course, the earth does not rest upon anything. When you go out to play, toss up a ball and make it spin in the air. As the ball spins, try to tell in what direction its axis points.

Can you find the *north star?* Point to the place in the sky where it shines.

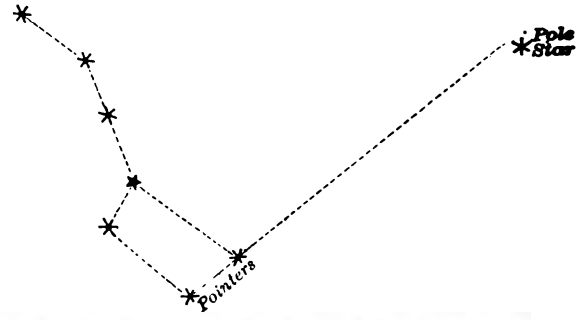


The axis of the earth points to the north star. The end of the axis under this star is called the *north pole*. The other end is the *south pole*.

If you were at the north pole you could see the north star over your head.

The north star is often called the *pole star*. Can you tell why?

The land and water about the poles are buried under ice and snow. Many polar bears and seals are found in the frozen regions of the north.



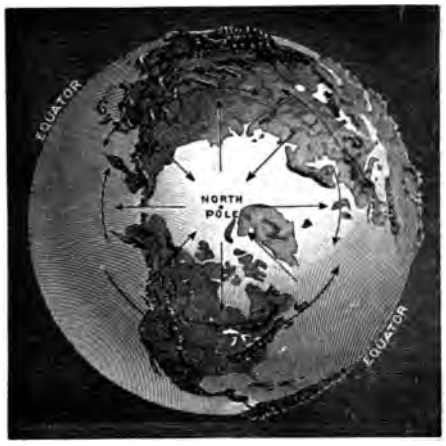
From every place on the earth, *north* is towards the north pole. *South* is towards the south pole.

Lines are often drawn from pole to pole on maps. All such lines run north and south.

How many arrows on map *A* point north? How many point south? Which arrows point north on map *B*? On map *C*?

Which arrows point south on map *B*? On map *C*?

Topics: — Axis; poles; north star; north; south.



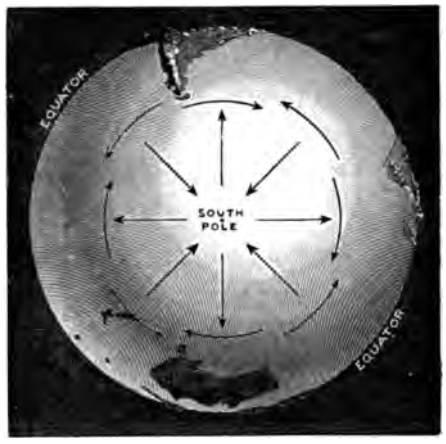
Map A.

36. The Equator.

We may think of a line drawn round the earth, halfway between the poles. This line is called the *equator*. It divides the surface of the earth into two *equal* parts.

Find the equator on the map. The lowlands near the equator have no winter.

The hot or warm weather lasts all the year.



Map B.

The equator extends east and west. Other lines may be drawn in the same directions. When we face the north, *east* is along the lines to the right, and *west* to the left.

Which arrows on map *A* point east? Which point east on map *B*? On *C*? Which arrows point west on map *A*? On map *B*? On *C*? Find the north pole in map *D*. Which lines in this map run east and west? Which north and south? When we face the south pole, does east follow the direction of the arrows to the right or to the left, round the pole?

Scene near the Equator.

How large a part of the earth can be lighted by the sun at one time?

The earth turns from west to east, and the sun is therefore first seen in the eastern sky.

On the first day of spring and the first day of autumn the sun rises exactly in the east and sets in the west. During the rest of spring and summer it rises north of east; during the rest of the year it rises south of east.

TOPICS: — Equator; east and west; motion of earth on axis.

Map C.

As the earth turns round on its axis, one side is light and the other side is dark. One side has *day*, and the other has *night*.

Which side of the earth is light? When will that side be dark? What part of a ball can be lighted by one lamp?

Map D.

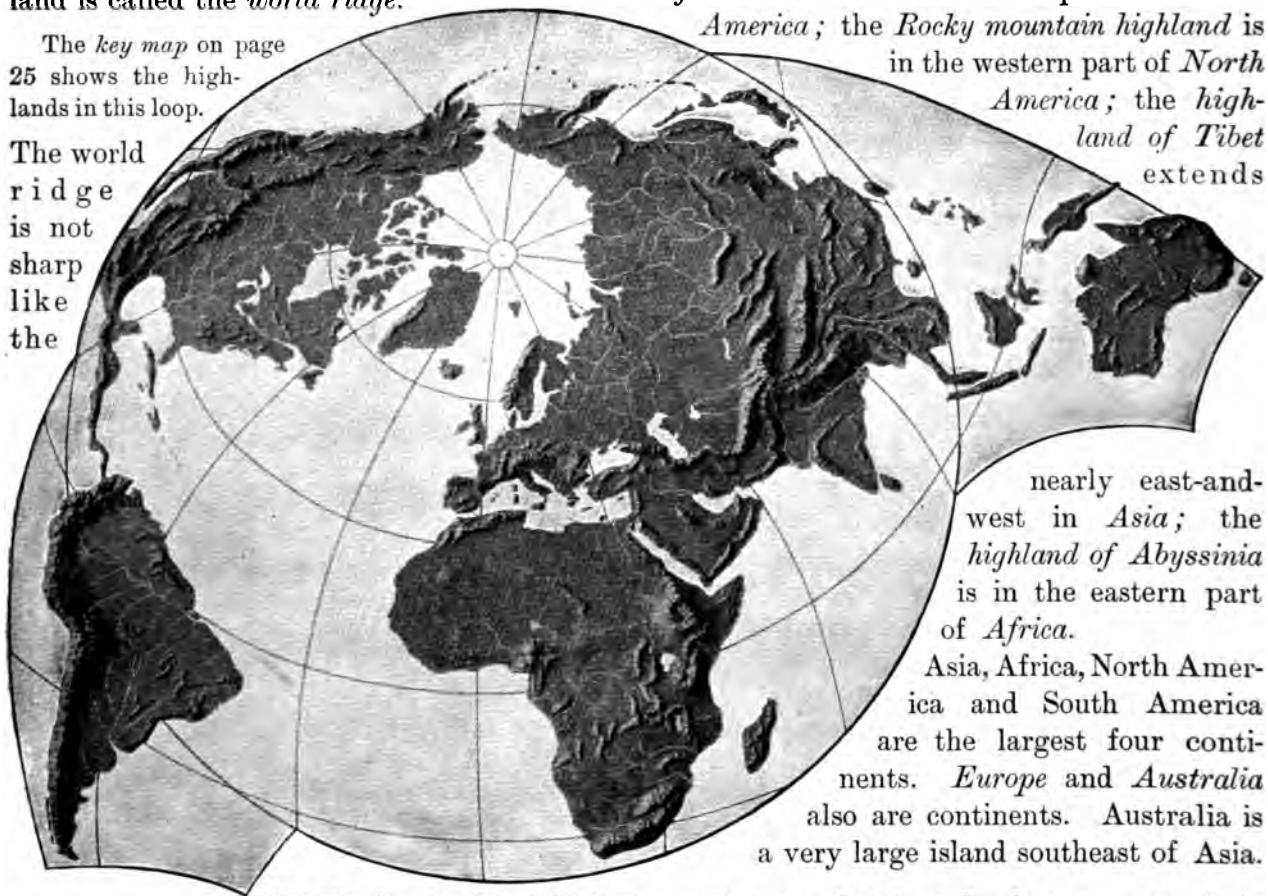
SURFACE OF THE EARTH.

37. The World Ridge.

Four long highlands form a loop that bends nearly round the earth. This loop of high land is called the *world ridge*.

The *key map* on page 25 shows the highlands in this loop.

The world ridge is not sharp like the roof of a house. In many parts it is hundreds of miles in width. The greater part of it consists of wide plateaus.



Relief Map Showing the World Ridge.

The world ridge is shaped like a horseshoe. The great highlands are clearly shown on the relief maps on pages 54, 80, 86, 92 and 98.

The parts of the world ridge are in great bodies of land called *continents*. The continents are wholly or partly separated by the oceans or by long gulfs, bays or seas. The four long highlands of the world ridge form the backbones of four continents. The *Andes highland* is in the western part of *South America*; the *Rocky mountain highland* is in the western part of *North America*; the *highland of Tibet* extends nearly east-and-west in *Asia*; the *highland of Abyssinia* is in the eastern part of *Africa*.

Asia, Africa, North America and South America are the largest four continents. *Europe* and *Australia* also are continents. Australia is a very large island southeast of Asia.

Europe and Asia really form one great body of land, — Asia being the large eastern part, and Europe the small western part. Europe does not contain any part of the great loop of highlands forming the divide between the oceans.

What two capes are near the ends of the world ridge? *See maps on pages 83 and 101.*

On which side of the equator are the ends of the world ridge? In how many places does the equator cross this chain of highlands?

Near what part of the world ridge is the north pole?

Key to Relief Map.

Make on the map a dot in the place where you live. Your teacher will show you where to make it.

The next four lessons describe the four great highlands that form the world ridge.

TOPICS:—World ridge; four highlands; six continents.

38. Andes Highland.[1]

In what continent is the part of the world ridge called the Andes highland? In what direction does it extend?

Water Hemisphere.

Land Hemisphere.

The Andes highland reaches one fifth of the distance round the earth. It consists of a long and narrow plateau, with many ranges of mountains. *See pictures on page 82.*

[1] The lessons in small type, in connection with pictures, are for supplementary reading. The more important text is in large type. The object of the small-type readings is to explain or describe objects of interest not essential to a brief or primary course, but that by their very interest help to fix in mind the main facts of the large-type lesson. The pupil will not forget the Andes, with their great peaks and their silver mines, if he takes an interest in the llama that is used to bear loads to miners in this lofty chain.

Some of the peaks of the Andes are so high that snow lies on them all the year.

On which side of the Andes are the great plains?

A very useful animal, called the *llama*, is reared in the Andes. This little beast sometimes carries loads on its back over the mountains.

The llama has a thick pad on the sole of each foot, and is well fitted to climb steep rocky paths.

A few years ago, long trains of llamas often went winding down the mountain sides, with loads of *silver ore*, — the rock from which silver is taken. On the return trip the llamas carried food, clothing and tools to the miners and other people living among the mountains. Railroad trains and mules now carry most of these goods.

TOPICS: — Andes highland; llama.

39. Rocky Mountain Highland.

In which continent is the Rocky mountain highland? In what direction does it extend. *See map on page 54.*

This mass of land is about as long as the Andes.

Which of these highlands looks wider than the other? Which looks the higher?

The Rocky mountain highland consists of a

Llama.

wide plateau, broken by lofty ranges and cut by deep valleys. It crosses the western part of the United States, the land in which we live.

The main range is called the *Rocky mountains*. It forms the eastern border of the great plateau and gives its name to the entire highland.

Would you like to cross the Rocky mountain highland on this train of cars? How the iron horse must puff on the steep slopes! In some places the track winds along the bottoms of deep canyons, and crosses long bridges far above rushing streams. In the high ranges, and even along the plateau, the road is often blocked with snow.

Many of the sights are grand. The train dashes round lofty points from which may be seen mile after mile of rugged peaks, and it glides into wide valleys which seem alive with cattle and sheep.

Hour after hour the train rushes on its way. Night comes on, but even while we sleep the cars speed over ranges and through valleys. The sun rises and sets, and we are still on the great world ridge.

The next rising sun finds us on the crest of the border range, and in a few hours we descend from snowy passes into a land of fruit and flowers.

TOPICS: — Rocky mountain highland; Rocky mountains.

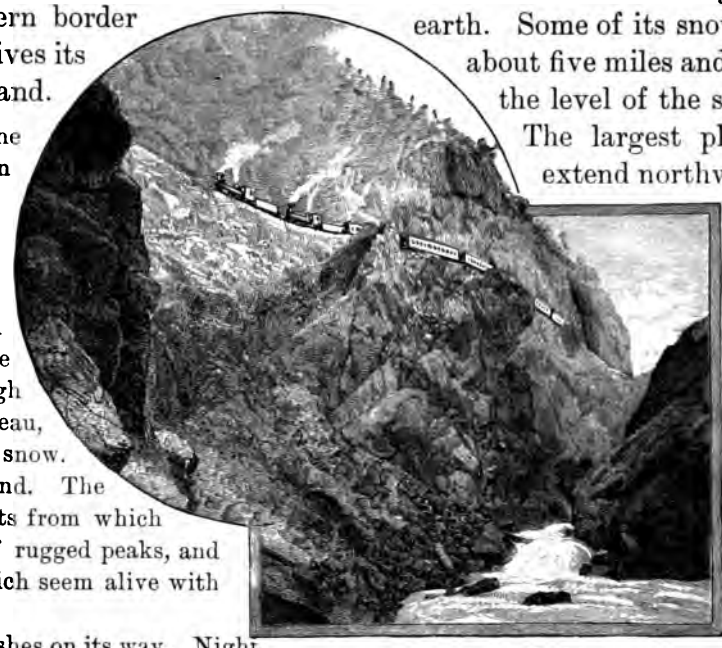
Peak of Kilimanjaro, Africa.

40. Highland of Tibet.

Where is the highland of Tibet? In what direction does it extend? In what continent?

This mass of land is the highest on the earth. Some of its snowy peaks rise about five miles and a half above the level of the sea.

The largest plains of Asia extend northward from the highland of Tibet.



Crossing the Rockies.

The musk deer lives far up on the highland of Tibet. See how large its toes are. When the lively little creature leaps from rock to rock, its toes seem to grasp the sharp points. The musk deer feeds on moss and grass that grow far up on the ranges.

Every year thousands of these creatures are killed for the little sacs of musk that form beneath the skin. This musk is used in making perfumery.

TOPICS: — Highland of Tibet; musk deer.

Musk Deer.

41. Highland of Abyssinia.

The fourth great mass in the world ridge is called the highland of Abyssinia.

In which continent is it? In what direction is Abyssinia from the end of the world ridge that is nearest it?

Let us try to climb this high mountain. It stands near the equator, a little distance south of Abyssinia.

Large banana plants and palm trees grow at the foot of the mountain.

Up we go! Now we can look far out over the lowlands. The air is cooler. See the great trees with moss growing on their trunks and branches.

At length we reach grassy places and clover patches on the mountain sides. Now we have passed the clover, and find only bushes and bare rocks.

Here is the edge of the great snowcap. We can climb no farther, and yet the top of the peak is far above us. This peak is very high, but many of the peaks in the highland of Tibet are much higher.

Natives of the Selvas.

42. Slopes from the World Ridge.

Each of the four great highlands sends out a long slope on one side, and a short slope on the other side.

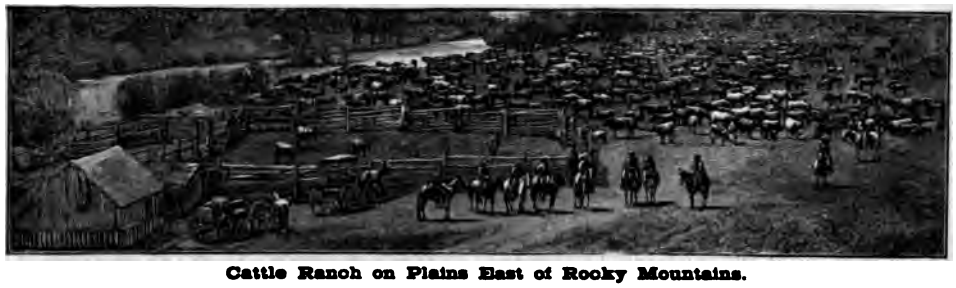
The long slopes are inside the world ridge. In most places they make wide plains before reaching the level of the sea. The slopes outside the world ridge are shorter than those inside. In most places the short slopes form only a narrow lowland along the shores.

The next four lessons describe parts of the long slopes from the world ridge.

43. Selvas.

Find the word *selvas* on the map on page 25.

Vast forests, called *selvas*, cover a large part of the slope east of the Andes highland. Long rivers wind through these forests and often overflow the land. The largest of these rivers is called the Amazon. *See picture on page 85.* Many tribes of Indians live along the borders of the streams. They spend their time catching fish, and shooting birds and small animals.



Cattle Ranch on Plains East of Rocky Mountains.

TOPICS: — Selvas; Amazon; Indians.

44. Central Plain of North America.

In which continent are the Rocky mountains? On which side of the Rocky mountains is the long slope?

A very large part of this slope consists of wide *plains*. In some places they are barren, but in other places they are covered with grain and cotton.

Just east of the Rocky mountains the grassy slopes feed large herds of cattle. These grazing plains stretch away for hundreds of miles.

TOPICS: — Central plain; products.

45. Tundras.

Find the word *tundras* on the map.

The tundras are marshy and mossy plains that form part of the long slope far to the north of Tibet. They lie along the shore of the cold Arctic ocean.

In most places the soil of the tundras is frozen to a great depth. In summer it thaws slightly at the surface.

Herds of *reindeer* feed on a small gray plant, called *reindeer moss*, that grows on the tundras. On page 88 there is a picture of these dreary plains.

South of the tundras there are large forests

46. Desert of Sahara.

Find on the map on page 25 the place marked *desert*. This is the desert of Sahara. In which continent is it? On pages 1 and 103 there are pictures of parts of this desert.

Have you ever seen any land like that in the pictures? How does it differ from the land near your school?

The Sahara desert is very dry, and most parts of it are rocks covered with sand.

Perhaps the children in this desert have never seen any rain, but they have seen terrible whirlwinds lift clouds of sand high into the air. The children of the desert often ride on the backs of camels.

South of this dry land there are long rivers flowing through dense forests and over grassy plains.

TOPIC: — Desert of Sahara.

47. The Continents.

What strait cuts across the world ridge?

Where is South America? Where is North America? What isthmus joins these two parts of America? Which part is the larger?

What lands are joined by the isthmus of Suez?

Where is Europe? Which is the larger, Europe or Asia?

What very large island is southeast of Asia? Which looks the larger, Europe or Australia?

What lands are crossed by the equator? On which side of the equator is the greater part of the land? On which side is the greater part of the sea?

Which of these large bodies of land lie wholly north of the equator? Which is wholly south of the equator?

What continents are in the Old World?

48. The Oceans.

The sea, or ocean, covers nearly the whole of one side of the earth, and also a large part of the other side. *See pair of globe maps below or the pair above.*

What name is given to that part of the sea which is round the north pole? To the part round the south pole? What ocean is east of America? On which side of the Old World is the Atlantic ocean?

What ocean is west of America? On which side of the Old World is the Pacific ocean?

What ocean is south of Asia? What land is west of the Indian ocean? What land is east of it?

What lands border on the Pacific ocean? On the Atlantic ocean? On the Arctic ocean?

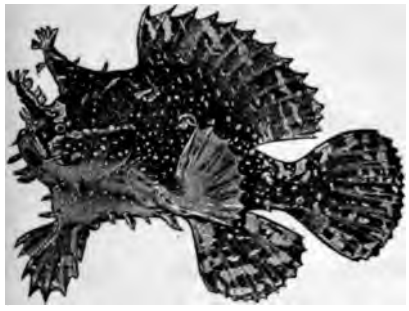
What oceans touch the shores of North America? Of Asia? Of Australia? Of Africa? Of South America?

Which is the largest ocean? Next in size?

49. The Bottom of the Sea.

Reading Lesson.

In some places there are very long and wide banks under the sea. The tops of many ranges and ridges also rise above the water and form islands.



A Spiny Fish.

Many volcanoes rest upon the bottom of the deep sea. Their peaks form hundreds of lonely islands, far out in the ocean. Most of these volcanic islands are in the Pacific ocean.

By far the greater part of the bottom of the sea is a vast smooth plain.

Sunlight does not go very far down in the sea. If we were to sink in this great body of water, we should find the light growing fainter as we went deeper. At less than one fourth of a mile below the surface, the ocean is always in darkness. In some places the water is five miles in depth.

Coral Island.

Near the surface of the sea, and on the bottom, there are many kinds of fish and other creatures. At times the shallow water near the shores of the continents seems to be alive with fishes.

The pictures on this page show a coral island and also some of the forms of life found on the bottom of the sea, — such as sponges, corals and fish.

50. Coral Islands.

Reading Lesson.

Have you ever heard of the pretty islands that grow in the sea? Let us visit one of them and find out how it grows. The water round the island is clear, and we can look far down into it and see the bottom.

Sponge.

What are those little branches that grow under the water? Reach down with a long pole and break off a branch. It looks like a small tree, but it is as hard as stone. There are tiny soft spots on the sides and ends of the branch.

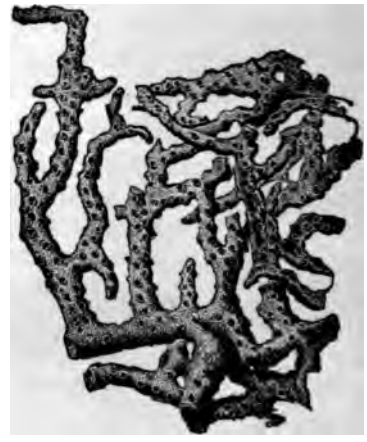
This is one of the wonders of the sea. Each soft spot is a living body. It has a mouth and a stomach, and takes its food from the water.

This tiny creature is called a *polyp*, and the hard part is *coral*. The coral is part of the body of the polyp. Some polyps grow like trees, and send out buds that form branches. The polyps on the branches bud again, and thus a dense coral forest grows.

Deep Sea Fish.

Polyps lay tiny eggs in the water, and the eggs float about. If they reach a rocky bank or a hard bottom where the water is shallow, clear and warm, they start another forest of coral.

When the coral has grown nearly to the surface of the sea, waves break off many branches and wash them onto the top of the coral mass. Each storm sends up more, till the bank rises above the water and forms an island.



Branching Coral.

The waves soon grind some of the coral to powder. Sea-plants drift to the new shore and mix with the coral dust. Soil is thus formed on the island.

Fine seeds are carried many miles by winds in storms. Other seeds drift with the sea from shore to shore. In some such ways seeds reach the new island, and grow to trees or smaller plants. Now the coral island is ready for man to come and make it his home.

There are many kinds of coral, and they take many pretty shapes.

HEAT, WIND AND RAIN.

51. Home Lesson for a Hot Day.

Find a place where the sun shines upon sand or upon hard bare ground.

Hold your hand one inch from the sand or the bare ground, then one foot away, and three feet away. In which place is the air warmest?

Find a flat rock. Can you feel heat coming from it?

Place your hand near the sand and then near some water that stands in the sun. Which is warmer, the *air* above the water or above the sand?

52. How the Air is Heated.

On a clear summer day, how hot the air is over a sandy field, and how cool a breeze from over the sea.

A flat rock in the sunshine may be hot, while green grass close by it feels cold. On very hot days, why do we like to sit in the shade?

The sun warms the surface of the earth, and the earth then warms the air just as a stove does.

Dust and clouds also receive warmth from the sun, and help to warm the air about them.

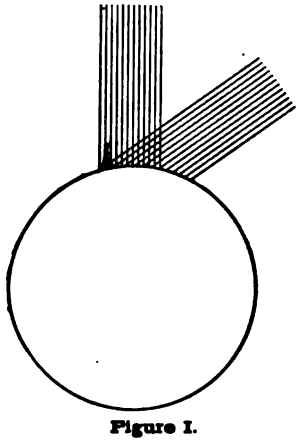


Figure I.

Can you now tell why the air becomes cooler when heavy clouds form between us and the sun?

When the sun is shining, some parts of the earth become warmer than other parts. For this reason, the air in some places is warmer than it is in others.

TOPICS: — How air is heated; why not all heated alike.

53. How the Earth is Heated.

Let us suppose that the straight lines in figure I. are rays coming from the sun to the earth at noon and also at about nine o'clock in the morning.

Count the slanting rays. Count the vertical or upright ones. Which rays spread out farther over the surface of the earth?

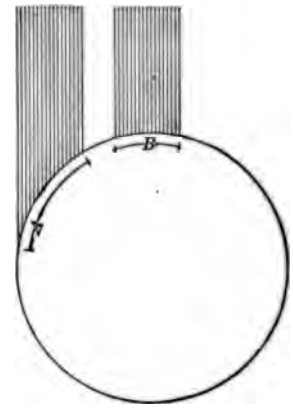


Figure II.

The more nearly overhead the sun is, the thicker its rays reach the earth. In the morning, when the sun is low in the sky, the rays are very slanting, and the earth warms slowly.

Which part of a day is generally the warmest? Why does the earth become cool or cold late in the evening?

In summer the sun shines higher in the sky than it does in winter. In the coldest part of the year, the sun's rays are more slanting than they are in summer.

On places near the equator, the sun shines almost straight down every day in the year, and makes a wide *hot belt* round that part of the earth.

As we travel north or south from the hot belt, the sun's rays become more and more slanting, and therefore we reach cooler and cooler parts of the earth. Round the poles there are wide regions of ice and snow.

In figure II., as many rays fall upon B as upon A. Over B the rays are nearly vertical, but over A they strike the surface with greater slant.

Which is the wider space, A or B? Upon which do the rays strike nearer together?

Figure II. shows that while the sun is shining nearly straight down on the hot belt, its rays fall with more slant on other parts of the earth.

Under the same sunshine, the land and the sea are not heated alike. Land warms more rapidly than water. When the sunshine ceases, the land cools quickly.

TOPICS: — Why sun does not heat all places alike; hot belt; polar regions.

54. High and Low Land.

Some mountains near the equator are very cold. The sun often shines straight down on lofty peaks that are covered with snow.

The thin pure air on high plateaus and mountains is colder than the air of the lowlands which are at the same distance as the highlands from the equator. High peaks are cold and barren.

Alpaca.

The alpaca lives near the equator. Look at its long wool. Do you not think that this little animal suffers from heat? The wool is very fine and is made into cloth. Have you ever seen any alpaca cloth?

The alpaca looks like a little camel, but it does not live in a sandy desert. Each toe has a tough sole to help climb rocky places where the alpaca goes to find grass.

The home of the alpaca is high among the Andes. Even in summer it can see snowy peaks only a little distance above the places where it feeds. Do you think that the alpaca needs its warm coat of wool?

TOPICS: — Heat on highlands and lowlands; alpaca.

55. The Seasons.

Which is the coldest part of the year? Which is the hottest part?

What season comes before summer? What one comes before winter?

Can you name three kinds of fruit that ripen in autumn? Three in summer?

In what season do most of the wild flowers blossom?

What can you see on a winter day that you cannot see on a summer day?

What games do you play in winter? What ones in summer? In spring? In autumn?

Which season do you like best?

56. Change of Seasons.

Once a year the earth goes round the sun. The path of the earth is almost a circle, with the sun near its center. For six months the vertical rays of the sun fall north of the equator. During the other half of the year they fall south of that line.

While the sun is north of the equator we have spring and summer. While it is south of the equator we have autumn and winter.

When it is winter on one side of the equator it is summer on the other side.

TOPICS: — Motion of earth; sun's rays and seasons.

57. A Sign of Spring.

One sign of spring is the coming of the storks. They visit nearly all parts of Europe, going as far north even as Lapland.

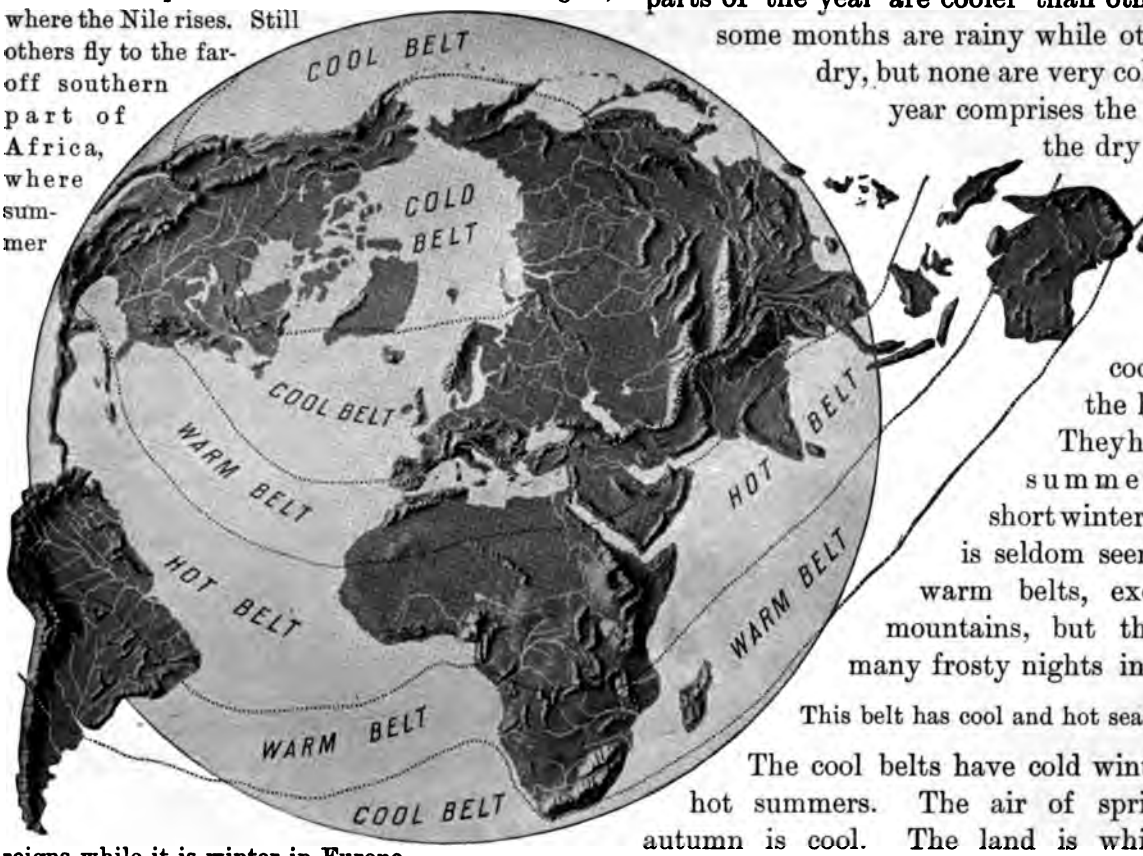
The storks make their nests of sticks on the tops of buildings and in tall trees. There they lay their large white eggs. These birds are always welcome, as they are thought to bring good luck.

When the cold season begins in Europe, the storks fly south. They cross the great sea and visit Africa.

Some of the storks wade along the shores of the Nile.

Storks of Strassburg.

searching for frogs, snakes and fish. Others feed in the swamps and marshes of the lake region, where the Nile rises. Still others fly to the far-off southern part of Africa, where summer reigns while it is winter in Europe.



What does this lesson tell about the seasons north and south of the equator?

Strassburg is in the valley of the Rhine. *See page 149.*

58. Belts of Heat.[1]

In which heat belt are river basins crossed by the equator?

From what heat belts do rivers flow into the Arctic ocean? Are their basins cold or warm? What heat belts are about halfway between the equator and the poles?

Which part of the earth is in the hot belt? Which parts are in the cold belts?

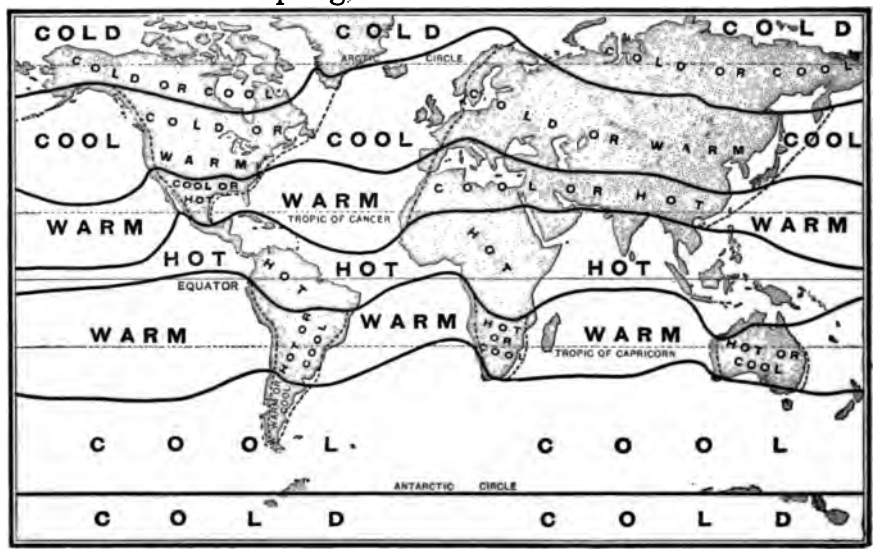
[1] In the supplement is a map of the *zones of light*.

The hot belt has no winter. Here some parts of the year are cooler than others, and some months are rainy while others are dry, but none are very cold. The year comprises the wet and the dry seasons.

The warm belts are a little cooler than the hot belt. They have long summers and short winters. Snow is seldom seen in the warm belts, except on mountains, but there are many frosty nights in winter.

This belt has cool and hot seasons.

The cool belts have cold winters and hot summers. The air of spring and autumn is cool. The land is white with snow during a large part of winter and early spring, and the northern rivers freeze over.

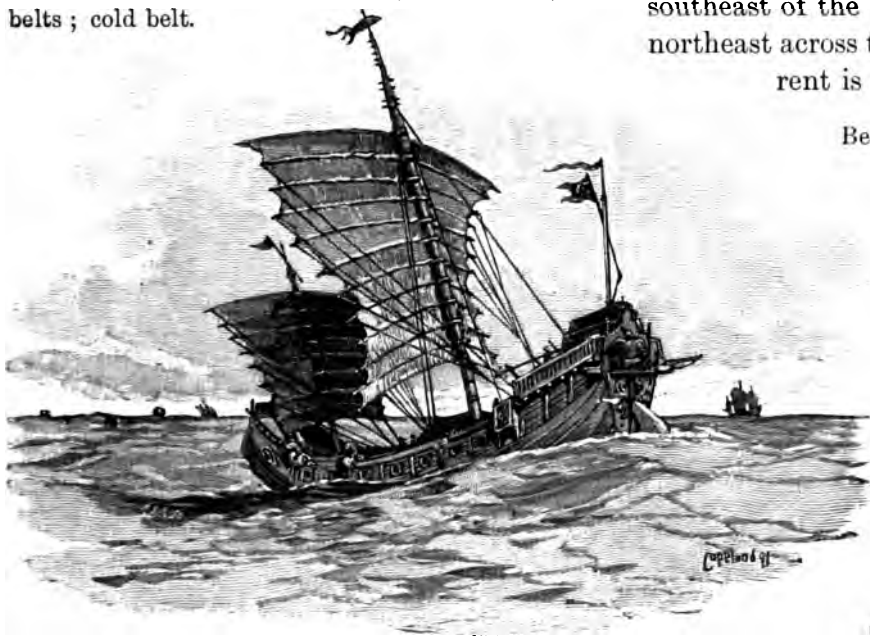


Heat Belts and their Seasons.

The cold belt of the north has very long winters and short summers. Along the Arctic coast in this belt the soil is deeply frozen the year round. The hot sun of summer thaws it only a few inches in depth.

Even in summer a wide field of ice and snow spreads round each pole.

TOPICS: — Seasons of hot belt; warm belts; cool belts; cold belt.



A Chinese Junk on the Pacific.

59. The Trade Winds.

In nearly all parts of the hot belt, and for a short distance beyond it, brisk winds blow in a westerly direction. These are called *trade winds*.

The trade winds blow over about one half the surface of the earth. As they sweep over the sea they gather up a vast amount of moisture and give it to the river basins in the hot belt.

The winds that bear moisture to the river basins of the warm and cool belts of the north blow mainly from the southwest and west, and are called *westerly winds*.

TOPICS: — Trade winds; westerly winds.

60. The Gulf Stream.

There are many streams of salt water in the sea. These are called *ocean currents*. Some are warm and others are cold.

Wide ocean currents flow westward under the trade winds. A branch of one of these currents winds among and around the islands southeast of the United States, and then flows northeast across the Atlantic ocean. This current is called the *Gulf stream*.

Between Cuba and Florida (*see map on page 57*) this stream is about forty miles wide and half a mile deep. It flows about five miles an hour. The water is dark blue and very warm.

As the Gulf stream crosses the Atlantic, it widens and flows more slowly. West of Europe this warm stream divides. One part flows along the northwest shore of Europe, while the other part turns southward towards the west coast of Africa.

The Gulf stream warms the winds that sweep over it, and these winds bear much warmth to western Europe.

The strange vessel in the picture is called a *junk*. It is made of bamboo, — a large grass-like plant that grows in southeast Asia.

Several years ago a junk was wrecked off the coast of China. Its masts were broken off and its sails were blown away.

For weeks and weeks the hull drifted in a great ocean current. At length it was found upon the rocky shore of Alaska, thousands of miles from the place where it lost its masts.

The junk drifted in the *Japan current*, which flows northeast past the islands of Japan. *See map of Asia, page 89.*

TOPICS: — Ocean currents; Gulf stream; Japan stream; effect on winds.

PEOPLE.

61. The Kongo Boy.[1]

The great oceans, deserts and highlands that we have studied separate the people of the earth into large groups, called *races*. These differ in many ways, as we shall learn in the following lessons.

Carrying Ivory to the Coast.

We shall first visit the home of the black race in Africa.

This tall hut is the home of little Tibbu.[2] It is near the great river Kongo, south of the desert of Sahara, in Africa.

Tibbu's face is black and his hair is woolly. All the girls and boys with whom he plays are of the same color and have the same kind of hair.

To-day Tibbu must drive the baboons away from the cornfield, and so he sets out early with his little bow and arrows. He will not be lonely, for he will make a play-hut, just like the one in which he sleeps.

Shall we watch him make the hut? First he breaks off many strong reeds and sets them in a circle in the ground. Then he ties others together to form the roof. He has no string, but he uses long grasses instead.

Now he ties bunches of grass all over the reeds, and his hut is done. He has left a place for a doorway, but there are no windows. He needs no chimney, for the fire is built outdoors.

What will Tibbu put in his hut? He is making a pretty mat of grass for a bed. Now he is shaping little dishes in clay. He will bake the clay in a fire, and it will become very hard.

Come, Tibbu, it is time to go home. The sun is low in the sky, and the lions and elephants will soon come down to the river to drink. Take your bow and arrows, and run very fast.

Baboon.

What has Tibbu's sister been doing to-day? In the morning she pounded corn between two stones and made meal for porridge. Then she helped her mother make cloth.

You could never guess how they made the cloth. They soaked long strips of bark in water, and then pounded them till they were very soft.

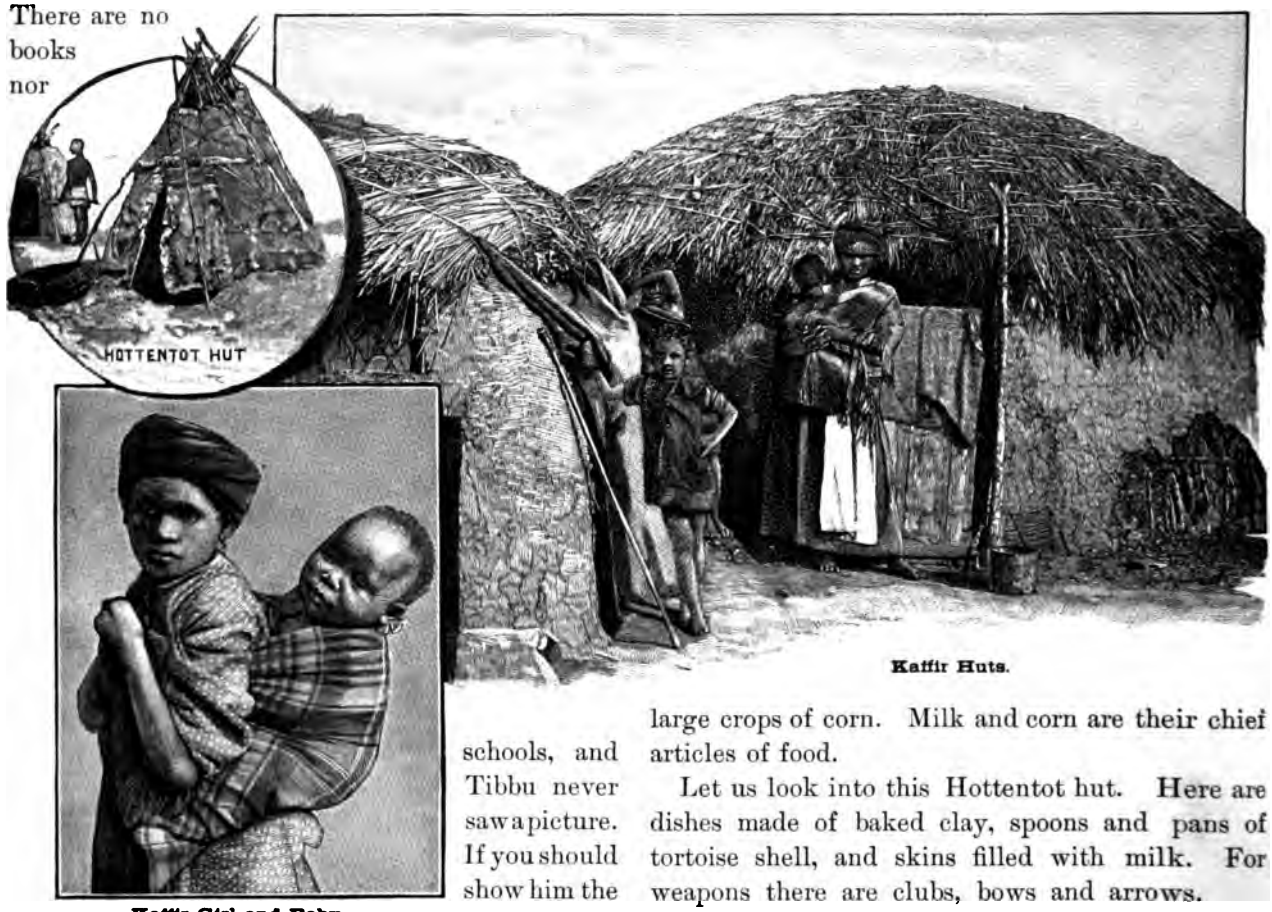
[1] The lessons on *People*, pages 35 to 53, are to be classed among the small-type *Reading Lessons* (see Preface). The class should read and discuss them, and be able to answer questions like those at the end of each lesson. The object is to give pupils an insight into the home life of the people of each race and to prepare for the study of *nations* in the various *countries*, as parts of races. Each of these lessons treats of a *race* type.

[2] Tibbu is the name of a famous Kongo chief.

When the bark was dry, they gave it to the father to make into clothes.

Would you like to know what these black children eat? Supper is ready and here are eggs, fresh fish and corn porridge. When they wish sweet food, they eat sugar cane or bananas.

Everybody goes to bed at dark, for there are no lamps in the village. Isn't this a queer place? There are no books nor schools, and Tibbu never saw a picture. If you should show him the picture of a lion or an elephant, he would run away.



Kaffir Huts.

Kaffir Girl and Baby.

Negro children are very fond of music. They keep time well and often make sounds like birds and running brooks. They have many games, also, and like to dance and play ball.

Many Negroes have been taken from their homes in Africa and sold as slaves. In our own land there are millions of black people, but they are free.

Many tribes of people, called Kaffirs, live in the southern part of Africa. Their color varies from red-brown to black, but they all belong to the black race.

The Kaffirs make garden tools and weapons of copper and iron. They are a brave people and have fought hard to prevent the white men from taking their lands.

The Kaffirs have herds of cattle, and they raise large crops of corn. Milk and corn are their chief articles of food.

Let us look into this Hottentot hut. Here are dishes made of baked clay, spoons and pans of tortoise shell, and skins filled with milk. For weapons there are clubs, bows and arrows.

Among the Hottentots women do all the hard work about home. They help also to tend the cattle and sheep.

The dress of these people is very simple. It consists of the skin of some animal, wrapped about the body. Chiefs wear the skins of wild animals, but the common people wear only sheepskins.

The Hottentots live in southern Africa. They often move from place to place in search of grass for their cattle and sheep. This is one reason why they dwell in tents.

Many white people have now settled in southern Africa. These have taught the tribes near them how to make better homes and to use better weapons. Other tribes still live in their wild state.

Does Tibbu live in a warm land or in a cold one?

Name some of the plants that grow in the Kongo river basin.

Name some of the animals that are found there.

Describe the hut which Tibbu made. Do you know what the Kaffir huts are made of? Tell how the Hottentot hut is made.

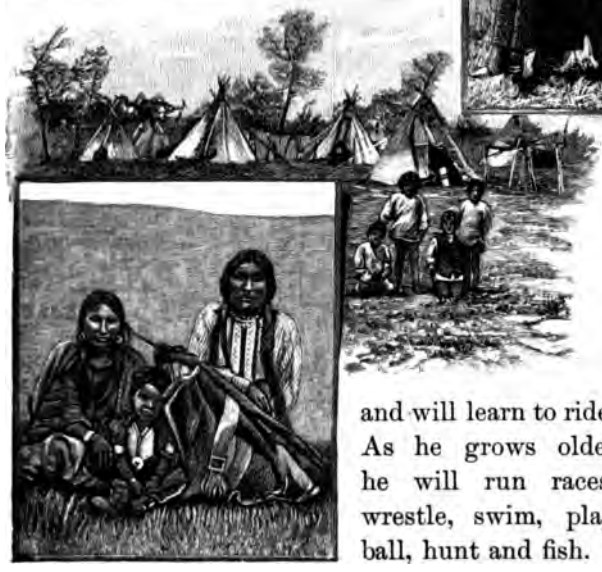
62. Children of the Indian Tribes.

Can you tell what is in the cradle that hangs on the tree? It is a tiny baby with round, black eyes, straight hair and red-brown skin.

This cradle is made of a piece of board, wrapped in cloth. There are pretty beads on the cloth.

Day after day, the Indian baby will swing from the branch of a tree. He will also take long journeys on his mother's back.

When those chubby fingers are strong enough to use a bow and arrows, the little Indian boy will learn to shoot. He will also be tied onto a horse

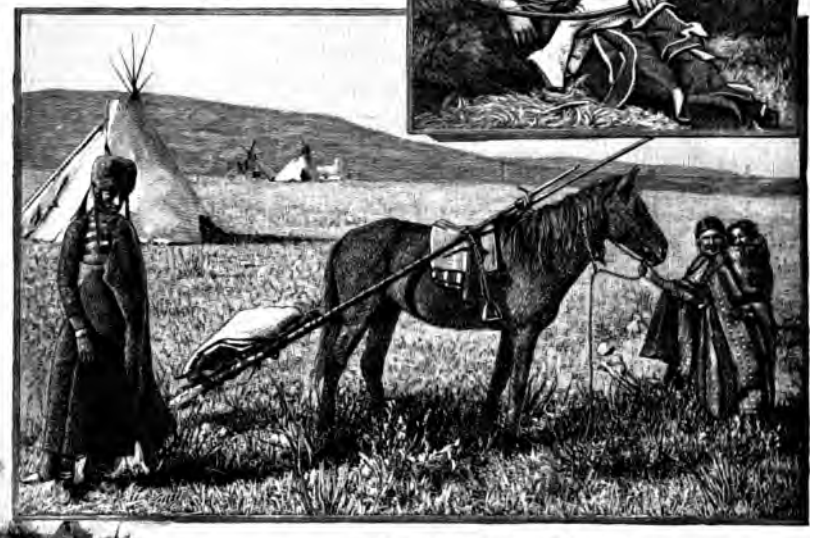


and will learn to ride. As he grows older he will run races, wrestle, swim, play ball, hunt and fish.

Can you tell what holds the tents up? What do you think the tents are made of?

Some tribes of Indians live in good houses made of wood, brick or stone. These have large herds of cattle and fields of grain.

In some places many families live in one large house or *pueblo*. It is made of stone or of brick dried in the sun. On page 38 there is a picture of a pueblo. Each of the large buildings is called a pueblo, and the same name is given to the whole village. Some of the tribes that live in pueblos have large fruit groves and grainfields.



Indians and their Camps.

Let us visit an Indian camp in the evening.

Here is a drum made by stretching a skin over a hollow log. The beating of this drum calls the tribe to an evening dance round the camp fire. At first the dancers move slowly. Then the drum beats faster and the dance becomes more rapid, till it breaks into fierce leaping, and the Indians yell as if fighting a battle.

The children look on with delight. Some day they will go through the same kind of dance. This evening they listen to stories of the brave deeds of their fathers; and then they go to their tents, to dream of the time when they will be warriors.

An Indian Village.

The Indians are very skillful in making bows and arrows, but their chief weapon now is the rifle.

The red-brown man taught the white man how to make canoes of birch bark, and shoes of soft deerskin. The dusky savage also showed the paleface how to make corn grow in a forest. The trees were first killed by cutting a ring of bark from their trunks, or by burning off the bark. The hot sun could then ripen the corn, as there were no leaves to shade it.

Is there nothing to say about the Indian *girls?*

While the boys are wrestling or hunting, the girls must stay at home and work. They must learn to cook, to hoe in the garden, to skin the animals that have been killed and to take down and put up the tents when moving camp. They must also help to carry all the tents and kettles from place to place.

The little Indian girl finds some time for play. She is very fond of dolls. What kind of dresses do you think she makes for her dolls? What kind of playhouse does she like best?

Indians are found in nearly all parts of South America, and in the western part of North America. Only a few tribes live east of the Mississippi river.

The number of Indians in the United States is small. There are about as many here now as there were when the white men first settled in America. Try to find in some history the reason why the red men are called *Indians.*

Where are Indians found? Can you draw an Indian's tent?

What has the Indian taught the white man?

If an Indian boy were to visit Tibbu, what strange sights would he see? What could an Indian girl teach a Negro girl of the Kongo valley?

63. Japan and its People.

To-day we will visit the homes of the yellow people who live on the islands east of Asia.

The girls and boys of Japan have round faces, bright black eyes and pearly teeth. They often have ruddy cheeks, though their skin is brownish yellow.

It will puzzle you at first to know which are boys, for they dress nearly like girls. Look closely and you will see that the boys' heads are shaved almost bare, while the girls' hair is twisted into all sorts of odd shapes.

What large sleeves! Let us look inside one of them. It is used as a pocket, and contains dolls, tops, small kites and many other toys. How would you like to wear a pair of their shoes? They are simply wooden soles tied on with strings. These shoes are not worn in the house, but are slipped off at the door.

The fathers and mothers of Japan do a great deal to make the children happy. You should be there on the day which is set apart for the "feast of the dolls."

A Japanese Village.

Each girl has a set of dolls. Perhaps her mother used some of them years ago, but they are

very pretty. Some of them look like the nobles and ladies of high rank.

Each set of dolls has a full outfit for housekeeping. Here are tiny wooden pillows, soft mats and tea sets. On this happy day the whole land is alive with dolls.

Then there is the "flag day" for boys. On this day every boy plays with a set of dolls dressed like soldiers. Here are armies of dolls, with flags, guns, swords, cannon and pretty uniforms. At this time the boys hear many stories about the great warriors of their land.

The streets are lined with shops in which toys are sold. Here is a man on a street corner shaping animals out of rice paste. The boys and girls crowd around and call out the names as soon as they guess what he is making. They know the monkey, wolf, bear and many other animals that are found in Japan, but they do not know the sheep.

This man has an oven which he rents to boys and girls. He gives them batter, and they cook and eat their own little cakes. If you do not like battercakes, he will sell you a cake that is covered with seaweed and fish.

Have you found out what the girls in the picture have on their backs? They wish to play, but there are little babies at home who must be cared for. The girls tie the babies upon their backs, and are soon playing just as hard as the other children.

Shall we enter one of the houses? It is made of bamboo, and has very wide eaves. See the paper! paper windows, paper doors, paper fans, lanterns, hats, cups, cloaks, napkins and many other things.

Scenes in Japan.

Isn't this a queer bed? Would you like to crawl into one of the wadded quilts, and rest your head upon the wooden pillow? This girl will soon wake and drink a cup of tea. Can you see the little tea set in the tray on the floor?

There are no chairs in the house. The Japanese sit on mats of wadded cloth or of straw. Sit on a mat, and your little friends will bring you a lunch. There is no table, but the boiled rice and steaming tea will be served on a dainty tray that stands on short legs. In some houses you would see meat, fish, various kinds of vegetables and a grain called *millet*.

It would amuse you to see the people of Japan eat rice. Two slender chopsticks of wood or of ivory take the place of a spoon or a fork. You would find it hard to get the rice to your mouth, but see the skill of the little yellow people.

Peep into this workshop. Here is a man who is making beautiful vases of clay. Another is carving pretty figures in ivory. A third is spreading fine varnish over wood. Near by there is a room in which soft silk is being woven into costly cloth.

Now let us leave the city and take a trip into the country. Climb into this light cart and away we will go. There are ponies in Japan, but most people prefer to travel in the way shown in the picture above.

What is this tall grass with feathery tops and long sharp leaves? It looks like corn, but it is many times as tall. This is bamboo, of which many of the houses are made.

We know what grows on the flat land, for we have seen pictures of fields of rice in our own country. But what is this shrub with white flowers and green leaves? Oh, yes, it is tea, and we shall see more of it on the plains of China.

Here is a puzzle! What are these little white and yellow rolls? They look like birds' eggs, but are soft and silky. *See picture on page 1.*

Have you ever seen a spider spin its web?

These soft rolls were spun by silkworms. They made the fine thread and then wound themselves in these glossy prisons. It took about three days to wind each silken case, or *cocoon*, and if the thread were unwound it would reach more than two miles. Now you know where the people get the silk with which they make thread and cloth.

Street Scene in China.

Some of the sports of the girls and boys of Japan are like your own. They spin tops, walk on stilts, fly kites and sometimes roll snowballs.

Most of the Japanese children are always clean. They bathe in tubs of very hot water just before going to sleep in thick quilts that are laid on the floor. They often have two or three baths a day.

The people of Japan are eager to learn, and they have very good schools.

They build great temples in the midst of beautiful gardens, for they are very fond of flowers.

Shall we follow the girls and boys to one of the temples on a holiday or festival day? They leave their little shoes or clogs at the door, enter the temple and stand clapping their hands softly. This is the way they offer their childish prayers. Then they go out and play in the gardens.

Before we return home let us spend a few days in China, a large country on the mainland of Asia.

As we enter one of the great rivers of China we see many houses built on boats. On the decks there are small gardens, and also coops for chickens.

The babies on these boats are tied at the ends of long cords, and the little girls and boys have light gourds or pieces of hollow bamboo tied upon their shoulders. The bamboo keeps them from sinking when they fall into the water.

Along the coast of China extends a low and flat delta, made by the two largest rivers of that country. Let us cross the wide plain. It seems as if the people are swarming here like bees. In all the rest of the world there are only four times as many people as live on the plain of China.

A Chinese Village.

We pass city after city and village after village, looking like the pictures on this page. Long canals and ditches wind across the delta, reaching thousands of square miles of fertile fields that produce rice and other grains.

Some parts of China have large tea farms, like those we saw in Japan. The Chinese are also noted for their fine silks.

The people of China are yellow and their eyes are set aslant. Some day we shall learn more about the great delta and the large cities of this land.

Where is Japan? *See map on page 89.* What ocean is east of Japan? Where is China?

Tell all you can about the clothing of the Japanese.

What could you see in a Japanese house that you do not see in your own home?

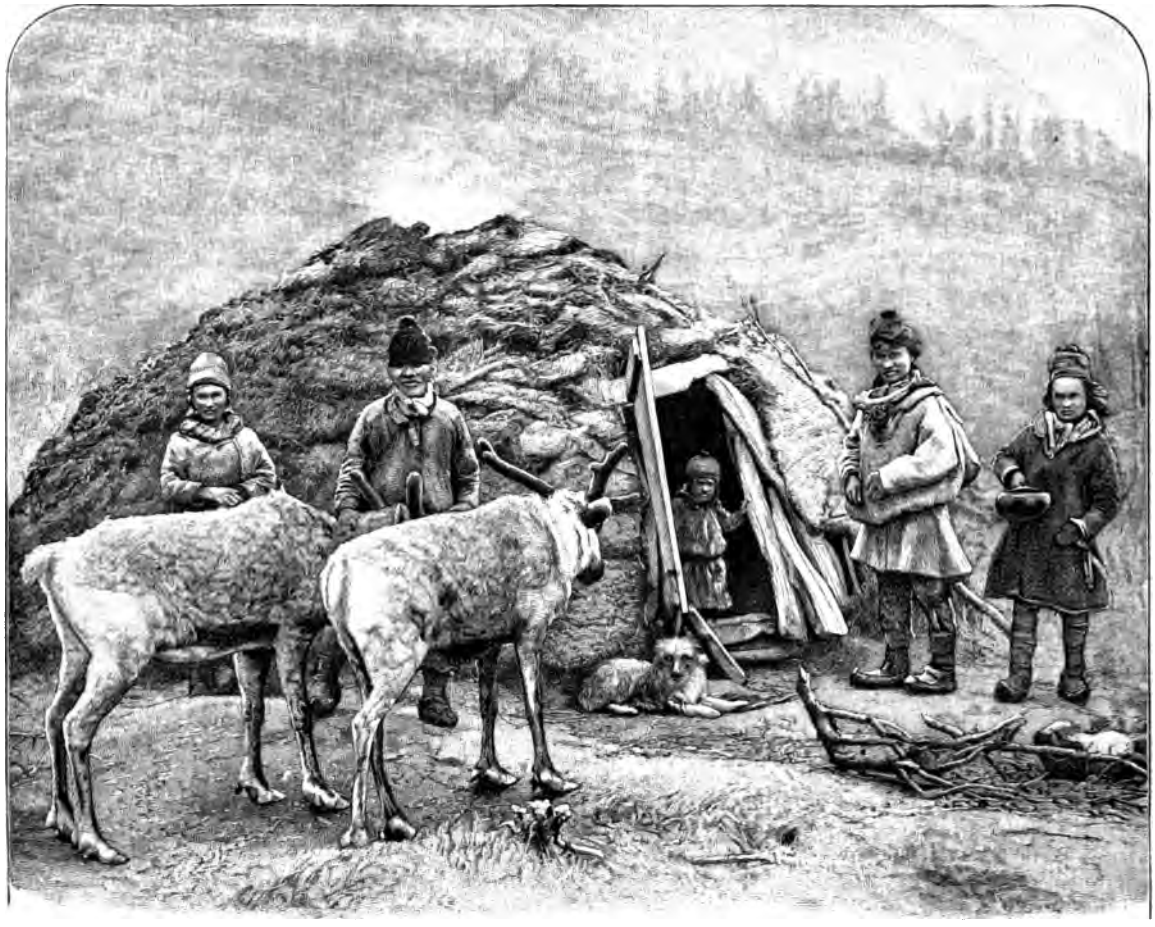
Name some plants and animals that are found in Japan.

What articles are made in the workshops of Japan?

64. A Lapland Home.

Does this family live in a warm land or in a cold one? Can you prove your answer by the picture?

Which has the warmest coat, the deer, the dog or the little boy looking through the door?



A Lapland Home.

Is n't this a warm hut? See the thick sods upon it. Do you think that rain can leak through the roof? See how the sods are placed. What holds them up?

Why is the hut so dark? Can you see any chimney?

Come out, little boy, where we can see you. What large round eyes you have, and what a tiny flat nose! Your eyes are as straight as ours, but your face tells us that you are one of the little yellow people. Your sister, who is holding a dipper, has dark hair, but yours is light.

Let us glance into the hut. What is in this bundle that hangs from the roof? It is a hammock made of the warm skin of a deer, and in it swings a pretty baby girl with eyes as bright and cheeks as soft as your own.

Would you like to know where these people live?

Their home is in the north of Europe, near the Arctic shore. They are called *Lapps* and they live in *Lapland*. Can you find Lapland on the map, page 95?

Ah! here is a snowstorm. Now we know why the Lapps wear boots with high tops bound tightly round their legs. Come! Let us hurry into the hut.

See the long strips of smoked meat hanging on the walls. Here are dishes of sweet milk also, and cakes of new cheese. Do you wonder that the Lapps are kind to their deer? Where do you think all this food came from?

Let us look at the boots and at this great hairy coat. Can you tell what they are made of? Some of the coats are made of cloth. At night the children sleep side by side between large warm deerskins.

Hammerfest.

Of course you wish to know what the reindeer feeds on. In summer it bites off tender shoots of trees and bushes, but in winter it paws away the snow to find a little gray plant, called *reindeer moss*.

It has stopped snowing. Now for a ride! Harness a deer to a sled and away we will fly over the snow. How fast we go! Will the fleet deer never grow weary? His master tells us that he has driven him a hundred miles in one day.

Would you like to live in Lapland? Do not think that there is snow on the ground all the time. As early as May the fields are dotted with pretty flowers, the birds sing sweetly, and later the bushes and vines are loaded with berries.

Perhaps you would like to live with the Lapps who catch salmon and trout in lakes and rivers, or with those who wander with tents from place to place, in search of good pastures for their herds of deer. You would find that the Lapps are very kind and generous.

Hammerfest is a town that the Lapps often visit. It is the farthest north of all the towns of Europe. *See map on page 95.*

Where do the Lapps live? What are the uses of the reindeer?

Can you tell some of the sights that Tibbu often sees, but that the Lapland boy never sees?

What would the Japanese boys miss if they went to Lapland to live?

Why does Tibbu not wear clothes like those which the Lapland boys wear?

If you were to go into a Lapland hut, what would you expect to see?

65. Chuglu, the Eskimo Boy.[1]

If we knew the words that little Chuglu uses, he could tell us a wonderful story about the land of snow and ice in the far north.

The picture on page 43 shows the hut in which he lives. It is built of stones, with turf thrown upon it to keep out the biting wind. The hut is now covered with snow. During the summer Chuglu lives in a tent made of deerskins.

The Eskimos are found along the north coast of North America, and on the islands near by. They live also along the southwest shores of Greenland. Find Greenland on the map, page 57.

When Chuglu was a baby his mother kept him in a bag of feathers. That was his cradle and his bed. Day after day he lay in the smoky hut, till he was old enough to walk, and then his mother made him a very pretty suit of sealskin clothes. On his jacket she sewed a fur hood that he could draw over his head on very cold days.

The mother has a large hood on the back of her own jacket, and many a cozy nap has Chuglu taken in this hood before he could walk.

[1] Chuglu was one of the Eskimos at the World's Fair in Chicago. The baby, Columbia, was born on the World's Fair grounds.

Which do you like best, the hood in which Chuglu slept, the hammock of the little Lapland girl, or the cradle of the Indian baby?

At length Chuglu is old enough to go out and see his father hunt seals. Bring out the sled and harness the dogs! *Snap!* goes the long whip, and away they glide over the snow. The father knows where the seals crawl out of the icy water to bask in the sun.

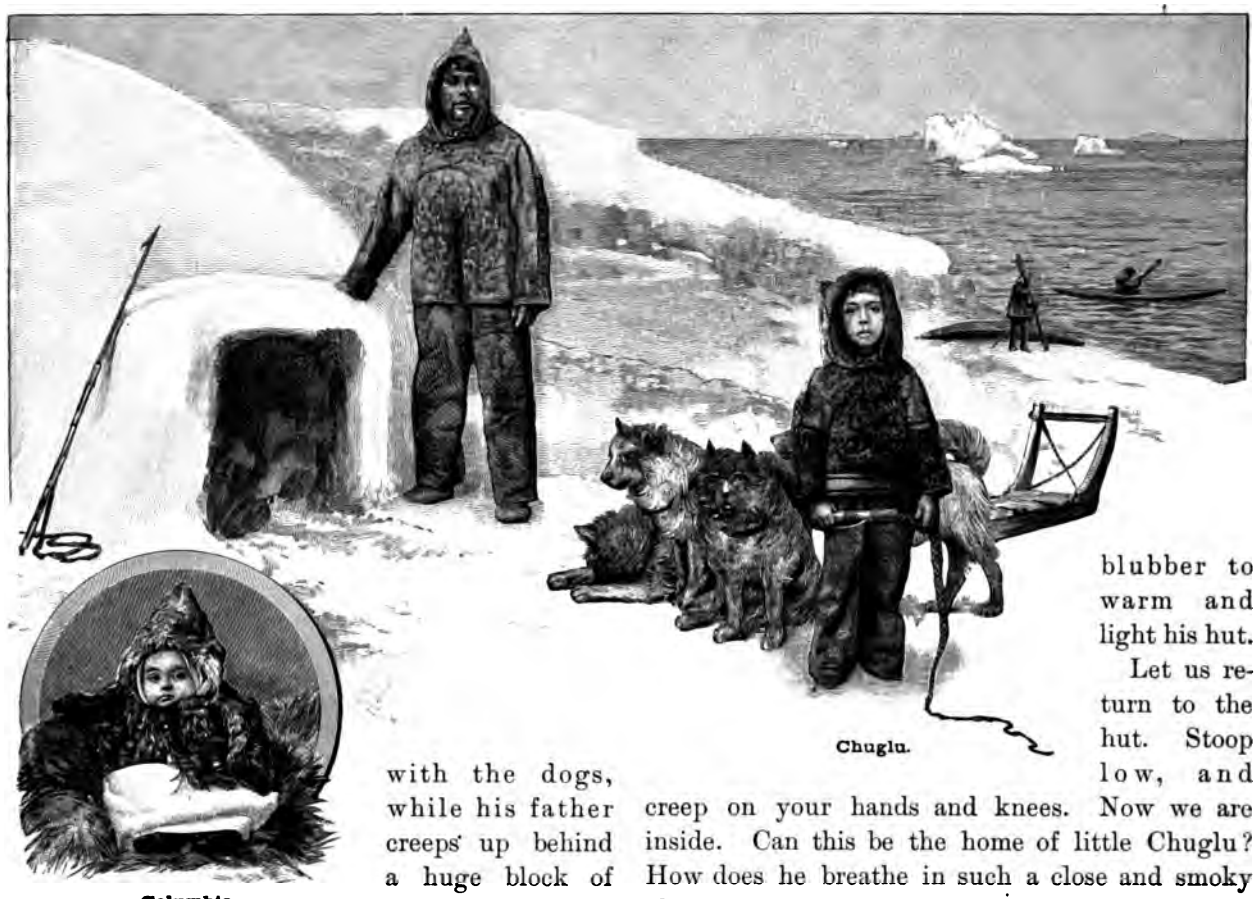
Now they are near the place. Chuglu is left with the dogs, while his father creeps up behind a huge block of ice. Yes, there are the seals! A rush, a blow, and one unlucky creature is held on the end of the sharp spear.

It seems very cruel, but Chuglu must have food and now he can eat the flesh of the seal. His mother will also make a new jacket of soft fur for him.

It is great sport for the Eskimo to chase a whale. He paddles his canoe, or *kayak*, very swiftly, and throws his harpoon with great skill.

The kayak is long and narrow. It is covered with sealskins. The skins are sewed over the top of the canoe, making it water-tight in all parts. Eskimos are so skillful that when a kayak upsets they can right it again in the water.

Under the skin of the whale there is a thick layer of fat or *blubber*, which keeps the icy water from chilling the muscles. The Eskimo uses blubber to warm and light his hut.



Chuglu.

Columbia.

Let us return to the hut. Stoop low, and creep on your hands and knees. Now we are inside. Can this be the home of little Chuglu? How does he breathe in such a close and smoky place?

Look at the lamp. It is a hollow stone, with moss for a wick. Where did the oil come from? The lamp smokes, but it keeps the hut warm.

Along one side of the room there is a long bench. During the day it is used as a seat, but at night it forms the family bed. Look at Chuglu as he takes off his jacket and boots. He wears a shirt of birdskin, and stockings of dogskin.

Now we can see his face clearly. The bright black eyes are aslant, the hair is coarse and black, and the skin is yellowish brown. Perhaps

Inside an Eskimo Hut.

Chuglu belongs to the same great family as do the children of Japan, China and Lapland.

Dinner is ready. Will you dine with Chuglu? He will have a feast to-day, for his mother has given him a large piece of blubber. His father is eating a slice of raw frozen flesh. Now he helps himself to a piece that has been boiled.

In this cold region no grain grows, and so these people have no bread. There is no fresh milk nor cheese such as we saw in the Lapland home, for Chuglu's father has no tame deer.

Some days they eat fish and sea fowl, and when Chuglu's father kills a great white bear, its flesh feeds them for a long time.

Eskimos often move from place to place, to find seals and fish. Sometimes they hunt far out over the frozen sea. When they settle in a place for a short time only, they make huts out of blocks of snow, with ice for windows.

White people often visit the cold seas of the north, in search of seals and whales. These people give or sell to the Eskimos knives, needles, cloth and other articles.

In making clothes the Eskimo women are very skillful. They cut the sealskins to fit well, and then sew them neatly together. Do you not think that Chuglu has a pretty jacket?

In autumn the days at the far north are very short. Then the Eskimos hunt all the time while it is light. They store up food for the long winter nights that are near at hand. Some Eskimos live in places where the longest night lasts many weeks. In summer there is a day that is just as long.

Would you not like to watch the sun during the long day? Every noon it is in the south, and at midnight it is in the north, but it does not dip below the horizon. By and by you will learn the reason why.

Can you find out how Chuglu's sledge is made?

Where do the Eskimos live?

Describe an Eskimo hut. What do Eskimos eat?

What strange sights would a Lapland boy see if he were to visit Chuglu's home?

Can you tell what the little boy in the upper picture on this page is trying to reach?

What objects in your home would seem strange to Eskimo children? Which would they like best?

An Arctic Scene.

Which people wear the best clothing, those of Japan, of Lapland or of the northern coast of North America? Give a reason for your answer.

66. Malay or Brown People.

Perhaps you think that this is a little Negro girl, but she is not. Her skin is light brown, and her hair is long and straight.

Look at the brother of the little girl. Do you not think that his eyes are full of fun?

These little people live on the island of Java, southeast of Asia. Java is a land of fruit and flowers. It is so beautiful that people often call it the "Pearl of the East." Would you like to visit the home of the brown people? Here it is, — a pretty hut in a shady grove. The hut is made of bamboo.

A Malay Girl.

A Malay Home.

Our little brown girl helps her mother keep this hut very neat and tidy. She stuffs pillows with soft white down that grows on a tree near by, and she weaves dried grasses into the mats that are used as beds. Then she covers them with pretty cloth.

Her brother pounds the yellow husks off the rice which they will have for breakfast, and he gathers a few cocoanuts and a bunch of ripe bananas. The fruit is eaten raw, but the mother cooks the rice till it is soft and white. Their only table is a mat, and all sit around it on the ground, while eating.

Now they are ready for the day's work. The coffee berries are turning dark red, and the father says it is time to pick them. This will be the work of the mother and the girl, for the father and the boy must let water in over the rice fields.

A coffee tree is a pretty sight. It has rich gray bark, large green leaves and white waxy blossoms. In a few months the little seed-pods of the blossoms grow into clusters of red or purple berries that look like cherries. Our little girl must be very careful, for while the berries are ripening, other blossoms are growing on the ends of the new branches. These blossoms must not be broken off or injured in any way.

The berries are spread out to dry, then the pulp is pounded or rolled off, and out come the coffee seeds ready for market.

Java is very near the equator, and by ten o'clock the sun is so hot that work in the fields is stopped. Now the brown people sit in the shade of palm trees and weave baskets. When thirsty they break open cocoanuts and drink the cool milk that is inside.

A Malay Boy.

The father says that snares must be set, for bats have been nibbling the corn and the tender shoots of the palms. Have you ever seen little

bats that look like mice with wings? Some of the bats of Java are very large and are called *flying foxes*. During the day they hang in dark clusters in trees, but in the evening they flit about in search of food. This evening the snares and nets will be set to catch some of them.

Brown People of Fiji Islands.

By four o'clock the air is cooler, and the father goes back to the rice field. Now the little girl will help her mother spin cotton into yarn. Some day they will weave the yarn into cloth, and make new clothes for the whole family.

What is the little brown boy doing? There he goes tripping across the rice fields towards the south shore. He knows of a cave in which many swallows build their nests, plastering them upon rocks. These nests are made of a glue-like substance, and a few of them will make soup for supper. Many of these nests are sold to people of other lands.

Caravan.

Nearly all the girls and boys of Java dress like these in the pictures. While working in the sun the boys often wear large hats made of very thin strips of bamboo.

The brown people are called *Malays*. Most of them live on the large group of islands southeast of Asia. In some places the Malays have built cities, but the white man rules over most of the brown race. Many of the Malays are savages, like the people in the black tribes of Africa.

Find Java on the map on page 104. In what direction is Java from Japan?

What new sights could a Javanese girl see in Japan? What could she see in Tibbu's home?

What do the people of Java eat? Of what are their clothes made?

A Java Girl.

67.

The Land of the Arabs.

We start to-day for a land that lies far to the southeast of the isthmus of Suez. The first part of our trip is to New York.

It will take about two weeks to cross the Atlantic ocean and the long Mediterranean sea.

Now we are passing the great rock of Gibraltar near the strait that opens into this long sea. What continent is this on the south? What one is on the north?

Here we are at the isthmus. A small boat is waiting to take us from the steamer to the land. We are just in time, — a caravan starts to-day for the very place we wish to visit.

We must travel on the backs of camels, as our route winds across a wide desert. Here is a camel kneeling for you. Now you are on, — hold fast while it rises.

Let us wait a few minutes near the great Suez canal.[1] Here is a long line of steamships ready

[1] On page 100 there are two views of this canal.

to pass through. Shall we look inside these ships and see what they carry? This one is from southeast Asia. It is loaded with tea, cotton, silk and grain. This cargo will be carried to the British Isles.

The steamer from which we landed is bound to Australia. Below its decks there are thousands of yards of cloth and many kinds of machines and tools. This ship will bring back a cargo of wool.

Now the caravan is ready to start. We turn our faces towards the southeast, and soon lose sight of the little city by the canal. How dry and sandy the land is, and how hot the air!

We camp to-night near this well of cool water. In the early morning we are off again, and at about ten o'clock we reach another well. Here we rest till the sun is low.

Days pass, and we are still in the midst of the burning sands. Now the wells are far apart, and we must carry water in bags made of camel's skin.

It is noon, and we have halted for the day. How the sun beats down!

See the dust whirling towards us! What is going to happen? The camels are burying their noses in the sand.

We must be quick, or a hot whirlwind will reach us before we are ready for it. Place a piece of cloth on the sand, and press your face hard down into it. While the hot wind is passing, you must breathe the air from the sand.

Now the wind is here. We are stifling! It seems as if hot coals were burning our bodies. The whirling sand almost buries us. Five minutes pass. They seem like hours. Now the camels are raising their heads, and the storm is over. That was the *simoon*, or stifling wind of the desert of Arabia. Where is Arabia? *See map, page 89.*

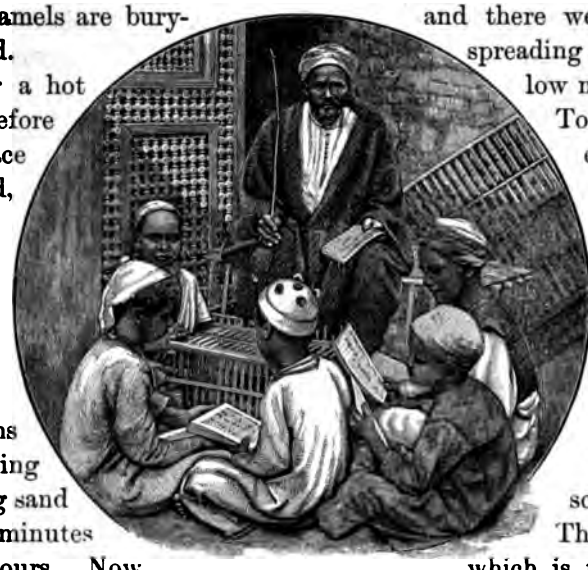
As we travel over the hot sand, clouds of locusts fly about us. They look like grasshoppers. Bees and wasps swarm upon the rocks that jut out of the sand. Countless scorpions, with poison stings, creep over the dry surface.

Arab Family.

The plant life is scanty. The camels find a few tufts of coarse grass, some sharp thistles and cactus plants.

Our route now leads over higher land. Here and there we see tents pitched under spreading date palms. In the distance low mountains rise on the plain. To-morrow our journey will end.

Here we are at last in a land of flowers! It is like a vast island-garden in a sea of sand. Mile after mile of groves and grain-fields stretches away to the south. This is the land of the Arabs.



Arab School.

Would you like to go to school with these Arab boys? They are reading the Koran, which is their Bible. Listen to the strange words which tell them not to press wine from grapes. In all this fair land no wine is made, but grapes are eaten. The Arab boys are dark, but they belong to the white race. Have you not seen boys that look like these?

School is over for the day, and our little friends must show us their homes. First we must see the horses.

How the Arab loves his horse! He oils its hoofs so that the hot sand will not crack them. He chooses for it the finest grass and the purest water, and often feeds it on dates and barley. He places no cruel bit in its mouth, but guides the noble animal by pressing his knees against its sides. The Arabs have the most beautiful horses on the earth.

Date Palm.

Next we will look at the camels. These animals are more useful than horses to the Arabs. One kind of camel is used for speed, and another for carrying heavy loads. The former will run one hundred miles a day, and in the cool part of the year will sometimes travel eight days without drinking.

Camels are to the Arabs what reindeer are to the Lapps. For supper to-day we shall drink the milk of the camel, and eat its boiled flesh. We shall have fresh butter and cheese, but these are made of goat's milk.

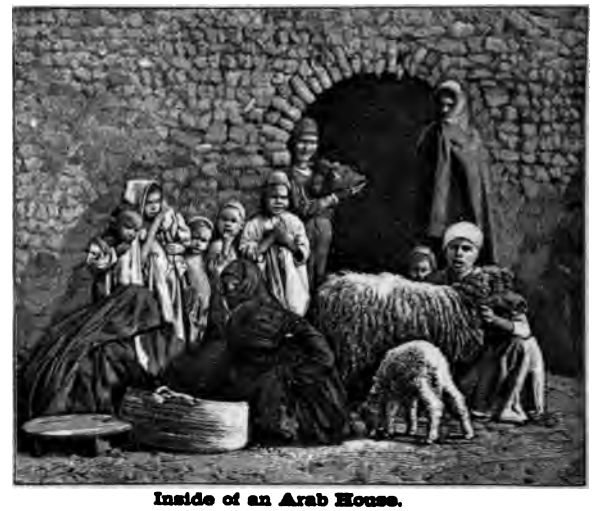
Studying the Koran.

The hair of the camel is soft and fine. It is used in making cloth. The tents of the Arab tribes that live in the desert are made of this kind of cloth. We need not stop to look at the sheep and cattle, for we can see many like them in nearly every part of our own land.

Let us go into the gardens. Here are bright flowers, and the scent of sweet herbs fills the air. The stifling wind never reaches this fertile region.

As far as the eye can reach, beautiful date trees wave in the valleys. For breakfast to-morrow we shall have fresh dates and sweet cakes made of the same kind of fruit. The date in Arabia takes the place of wheat as used in our own land, of rice in Japan and of fruit in Java.

Look into one of the wells. It is only a few feet in depth, and the sides are built of stone. In the desert the wells are much deeper. All the gardens of this land are watered from wells, for the seasons are often very dry. Coffee is the chief drink of the Arabs. The coffee berries grow on the hilly lands near the strait that forms the outlet of the Red sea.


Inside of an Arab House.

Some Arabs live in good houses of stone or of wood; others, in huts made of sun-dried bricks. The people are very kind and polite, and we are sorry to leave the dusky white boys, but

we must begin our long journey back to the dearest land of all, — America.

Of what continent is Arabia a part?
In deserts, why are camels more useful than horses?
Name some animals that are found in Arabia.
Of what use are camels to Arabs?
What do Arabs eat? What berries that grow in Arabia are used to flavor drink?

Scenes in Holland.

68.

Children of the Lowlands.

To-day we will visit Holland, the land of canals.[1] It is part of the low plain through which the river Rhine flows to the sea.

This land is crossed by a network of canals and ditches. Its wide meadows look as level as a floor. No fences are needed, for water separates the fields.

Boats with white sails seem to skim over the meadows, but of course they are in the canals. In handling the boats, girls are often more skillful than boys.

Some of the children in Holland are born on boats, and spend their lives floating about the canals. They go from place to place where their fathers find work. When they are old enough the boys have boats of their own.

Let us take a trip on one of the house boats.

See the long rows of windmills! They are pumping water from the low fields into ditches. When the corn is ripe the windmills will help grind it to meal.

What are these men doing? They are cutting strips of soft earth, and placing them where they will dry. These strips are filled with roots and grass, and will be sold for fuel. They are burned by all except the rich people.

Here is a band of haymakers. See the girls working in the field. Yes, the mothers and sisters in Holland often make hay, dig potatoes, sow grain, hoe corn and do other kinds of hard

[1] Holland is also called *The Netherlands*, which means *lowlands*. This name appears on the map, page 95.

work. They even help to draw or to push boats along the canals.

What queer shoes the horses wear in the fields! They are small boards tied under the hoofs. Why do the horses wear them?

A large part of this lowland is very soft and boggy. It seems like a wet sponge. The ground trembles under even the little children at play. If it were not for wide shoes, the horses would sink deep into the soil.

What a land this is for the barefoot girls and boys! They can splash in the puddles,

Scene in the Alps.

wade in the ditches, sail boats on the canals and catch fish nearly everywhere.

You should see the children in winter, when the canals are frozen. How swiftly they skim over the ice! For miles and miles the canals are then alive with skaters.

Poor children use wooden skates, but they have much fun. People go to market on skates. Here is a little girl going to sell a basket of eggs. She will bring back a small red cheese and a loaf of bread about two feet long.

Would you like to wear wooden shoes? Of course you would take them off at the door, and not wear them in the house. Do you not think that our leather shoes are much better than wooden ones?

Here we are at a bridge. Our house boat cannot pass till the bridge is raised. The men who move the bridge swing out to us a little wooden shoe on the end of a pole and line, and we drop into it a small piece of money to pay them for their work.

Now we are near the great city of Amsterdam. It looks like a forest of masts, trees and steeples. Boats, boats everywhere! The houses are very neat. Perhaps the kitchen is the front room, but what of it?

Would you like to live in Holland?

What large river flows across the plain of Holland, or Netherlands? *See map on page 149.*

What is a house boat? Are the rivers of Holland swift or slow?

What do the people of Holland use for fuel?

Of what use are windmills to the people of Holland? Of what use are canals?

Name some of the farm products of Holland.

69. Children of the Highlands.

Let us leave the "land of canals," and sail far up the river Rhine. Hans, a Holland boy, will go with us to visit the Swiss boys who live on the plateau among the high Alps.

Here we are in a pretty village, close by the snowy peaks. Wilhelm, a little Swiss boy, comes down the road to meet us.

How strange the place looks to Hans! He has always lived on low land by the sea. Now, for the first time, he sees great rocky ranges upon which snow lies all the year.

What do you think that Hans misses most? Yes, the quiet canals. In Wilhelm's home, no white sails seem to skim across rich meadows. Many of the Swiss streams rush and roar over steep, rocky beds. Hans feels of the water and finds it icy cold. Wilhelm says that it flows from a long glacier.

The Swiss village is all alive to-day. Spring has come, and the flocks must be driven up the mountains to feed.

The men who go with the flocks will be away from home till near the end of summer and many carts are loaded with food and bedding for them. Hans and Wilhelm are very happy, for they are going on the long trip.

When all are ready, they set out with long lines of cattle and sheep. The flocks graze for a few days at the foot of the range, then as the snow melts they climb higher. In the valleys they find the grass green and tender. Here they will graze till the snow drives them down the slope.

Hans and Wilhelm help to tend the flocks, and then they play by the swift streams, or search for wild flowers. Once in a while they catch a glimpse of a nimble *chamois* or an *ibex*, as it leaps from crag to crag far above them.

The chamois looks partly like a deer and partly like a goat. It is very shy, and has keen scent and sight.

In winter this little creature feeds on tender shoots of fir and pine trees. In summer it is found close to the lower edge of the snowcap on the highest peaks.

Wilhelm's Home.

The chamois is noted for its long leaps from rock to rock, over deep chasms. It is very playful and is often seen sporting about in the light, feathery snow.

Often at night the boys lie awake and listen to the ice cracking and groaning, as it winds slowly past their cabin. Wilhelm says that the glacier walks and talks.

One day when the boys are far up the mountain side, they see a great mass of ice and snow slide into the valley. At first it moves slowly, but soon it crashes along, sweeping all before it. Large trees snap and break. Huge rocks whirl down the slope. The earth trembles, and the flying mass gives out an angry roar.

That evening Hans tells a story about the sea breaking through the dykes of Holland and flooding his father's field. Wilhelm tells about the soft snow that slid down the mountain side last winter and buried the village in which he lives.

Remains of a Snowslide.

Weeks pass, and at length the snow creeps down the mountains into the high valley where the flocks are grazing. They must at once start for home, or they may be caught in a blinding storm.

It is the middle of September, and the village is dressed for a holiday. To-day the fathers and elder brothers come home with their flocks from the mountains. The girls and boys march out with bells and flags to meet them. They all return shouting and singing.

The day is given over to sports and games. The young men wrestle, run races and shoot. In

the evening bonfires are kindled, and many dancers keep time to music. In the midst of the festival a heavy snowstorm begins, showing that winter is at hand. How strange it all seems to little Hans.

What have the girls and boys in the village been doing all summer?

They have helped their mothers mow grass, plait straw into hats, and take care of the cattle that were not driven to the mountains. They have also milked the cows and goats, and have made butter and cheese for market.

A Glacier.

A Swiss Cottage.

Every year many thousand people visit the Alps to see the snowy peaks, the long glaciers and the mountain lakes. Many young men earn a living by serving as guides to the visitors.

Now the time has come for Hans to return home. He will remain a few days in the beautiful Swiss cities of Geneva and Bern, to see the great workshops. Here he will watch the people spin silk and weave cotton and wool into cloth, but this work will not be new to him. He has seen the same kind of work in the cities of Holland, near his own home.

Where is the Swiss highland? *See page 93.*

Where do glaciers come from? Describe a Swiss cottage. Can you tell why heavy stones are placed on the roofs of cottages?

What kinds of work can the girls and boys of Switzerland do?

Name six animals that Swiss boys see.

What kinds of goods are made in Swiss cities?

70. Homes of the Races.

People live in nearly every land. Of course there are many more people in some places than in others and we have seen that not all look alike.

Most of the black tribes live south of the desert of Sahara or in Australia.

The "red men," or red-brown tribes, are found in many parts of America.

The people of the brown race make their homes mainly on the islands southeast of Asia. The yellow people live in the river basins of Asia and Europe sloping to the Pacific and Arctic oceans. They are found also along the Arctic coast of America.

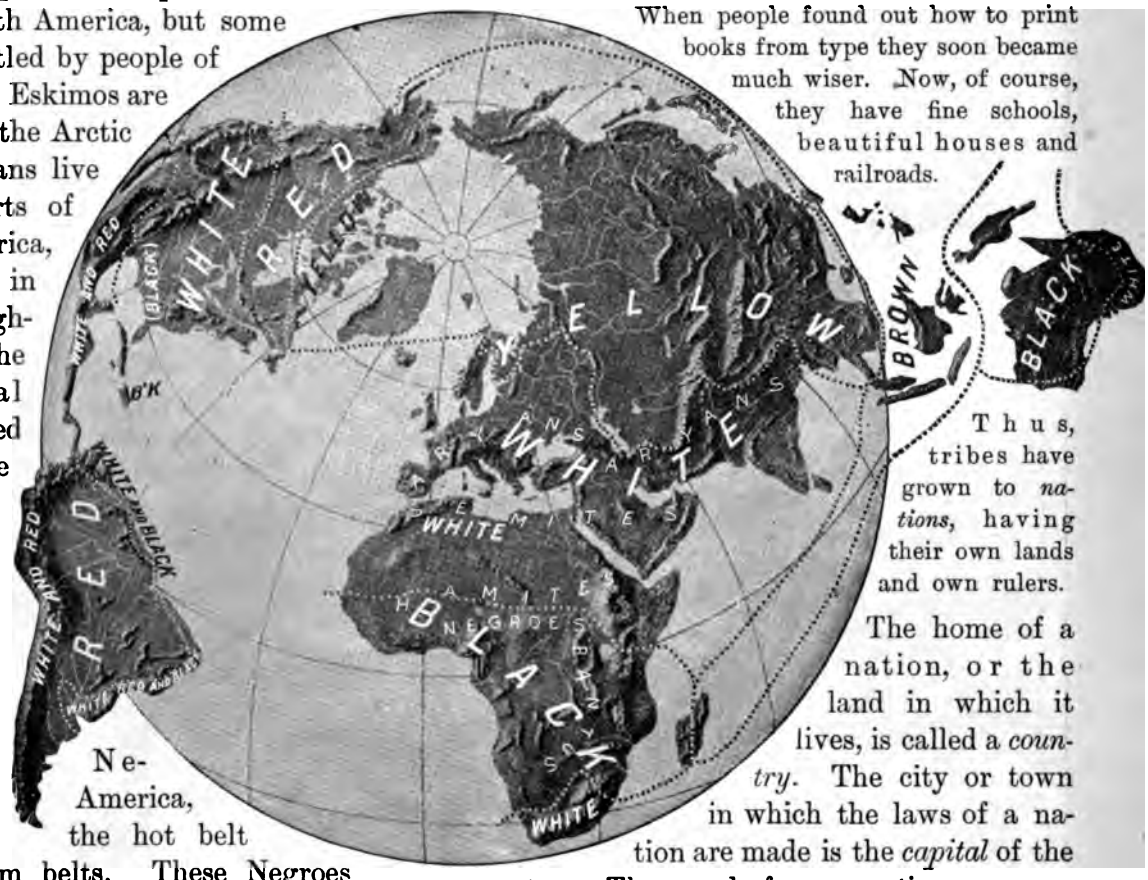
In the Old World the home of the white race is between the lands of the black and the yellow races.

White people live south of the highland of Tibet, but yellow people live on the highland and also north and east of it.

White people live in most parts of Europe; some yellow people have settled in the northern and eastern parts of this continent.

A dark branch of the white people, including many Arabs, spreads over northern Africa, — in the desert of Sahara and north of it.

White people hold all parts of North America and South America, but some parts are settled by people of other races. Eskimos are found along the Arctic shores; Indians live in most parts of South America, but chiefly in the Andes highland and the great central plain; the red men make their homes also in some parts of North America, but mostly in the western part; many Negroes live in America, but chiefly in the hot belt and the warm belts. These Negroes are descendants of former slaves from Africa.



Where is the home of the black race? The red race? The yellow race? The brown race? The white race? What races are found in America?

Trace the outline of the lands on the above map, and then draw the dotted lines that separate the homes of the races.

71. Homes of the Nations.

Long ago Europe was the home of many tribes of white people. They often fought for the best lands. Here and there a strong tribe would conquer many weak ones, and a single chief would rule over all. Perhaps he would add to his land till it reached to the sea, to a wide river or to a range of mountains.

At length the small tribes grew to large ones, under a few rulers. As years rolled by, the people of each large tribe learned to use the same names for things about them. After a time they began to trade with other tribes, and to learn from them.

When people found out how to print books from type they soon became much wiser. Now, of course, they have fine schools, beautiful houses and railroads.

Thus, tribes have grown to *nations*, having their own lands and own rulers.

The home of a nation, or the land in which it lives, is called a *country*. The city or town in which the laws of a nation are made is the *capital* of the country. The people form a *nation*.

A nation may be a part of one race, or it may be made of people of two or more races.

Thus, our own *nation* possesses the *country* called the United States. The *capital* is the city of Washington. *See map on page 65.*

Most of the people of our nation belong to the white race and are descendants of settlers from countries in Europe. *See lesson 79.* There are also many Negroes, or people of the black race.

Then there are thousands of Indians and Chinese living in this country. To what races do they belong?

TOPICS: — Nation; country; capital.

RELIEF MAP OF NORTH AMERICA.

NORTH AMERICA.

72. Surface of North America.

Make a little dot on the relief map in the place where you live.

What oceans border on North America? Which part of the world ridge is in this continent? Along which coast does it lie? In what direction does it extend?

Which part of the Rocky mountain highland looks the widest? The highest?

Name three large rivers that flow from this highland to the west coast. Which of these rivers flows into the Pacific? Into Bering sea? Into the gulf of California?

What great mountain range forms the eastern part of this highland? Name two high ranges in the western part. Between what ranges does the region called the *Great Basin* lie?

Where is the Appalachian highland? Compare it with the Rocky mountain highland, — in length, in breadth, in height.

Where are the Western plains? What name is given to the plains on the south and west of the Great Lakes? Where are the Southern plains?

Through what river do the Great Lakes find an outlet? What large river flows through the prairies and Southern plains? Name a river flowing into the Arctic ocean; into Hudson bay.

Sketch the map of North America. *See guide map in supplement.*

73. People and Countries.

What two countries occupy the greater part of North America? What large bodies of water partly separate these countries? Which has the colder climate?

What country is on the south of the United States? Where is Central America? There are several small countries in Central America; be-

tween what sea and ocean do they lie? *See map on page 148.*

Where is Greenland? Iceland? Alaska?

Name two islands of the West Indies.

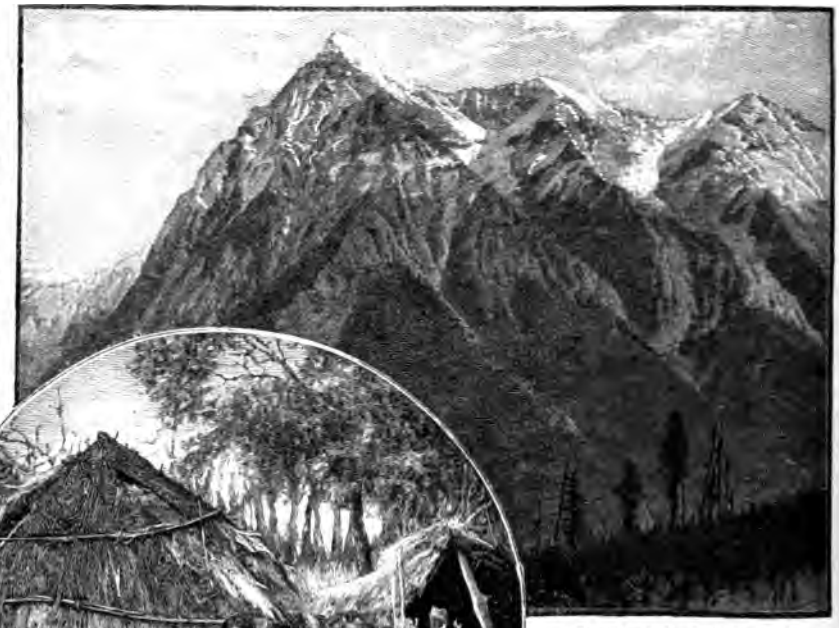
We have learned that when the white men first came to America, Indians held the land. Several million Indians still live in North America, but mostly in the southern part.

More than half the people of Mexico and Central America are Indians. Only a small portion of the people of the United States and Canada are red men, and they dwell mostly west of the Mississippi river and west of Hudson bay.

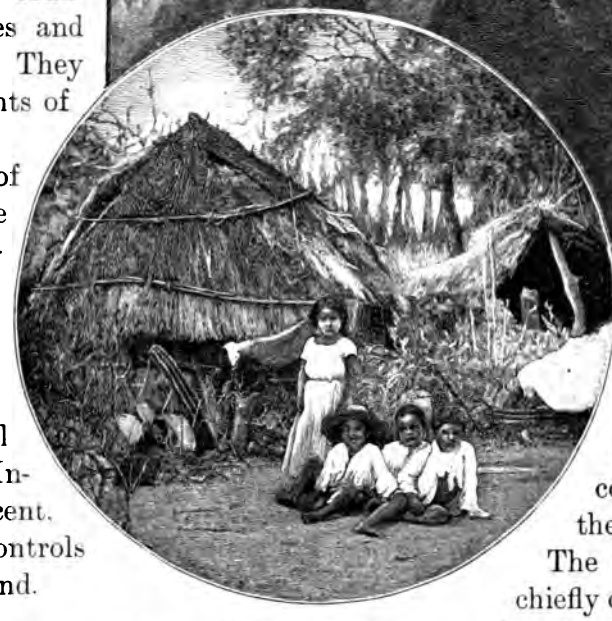
Many Negroes live in the warmer half of our own country and in the countries and islands farther south. They are nearly all descendants of former slaves.

The white people of the United States are mainly of English descent. There are also many from various other nations of Europe.

Nearly all the white people of Mexico, Central America and the West Indies are of Spanish descent, but Spain no longer controls any part of the mainland.



Rocky Mt. Highland.



Mexican Children.

The children in this picture live on the plateau of Mexico. They wear light clothing, for their home is in the warm belt. What are the huts made of?

This picture shows only country life. On some parts of the plateau of Mexico there are large towns and cities. The largest of these is the city of Mexico.

The bands of white men that first explored America found that not all the Indian tribes were alike. Some of the natives were very savage, but others were peaceable. On the other hand, while some of the white men were kind to the Indians, — trading with them and buying lands for homes, — others treated the red men very cruelly.

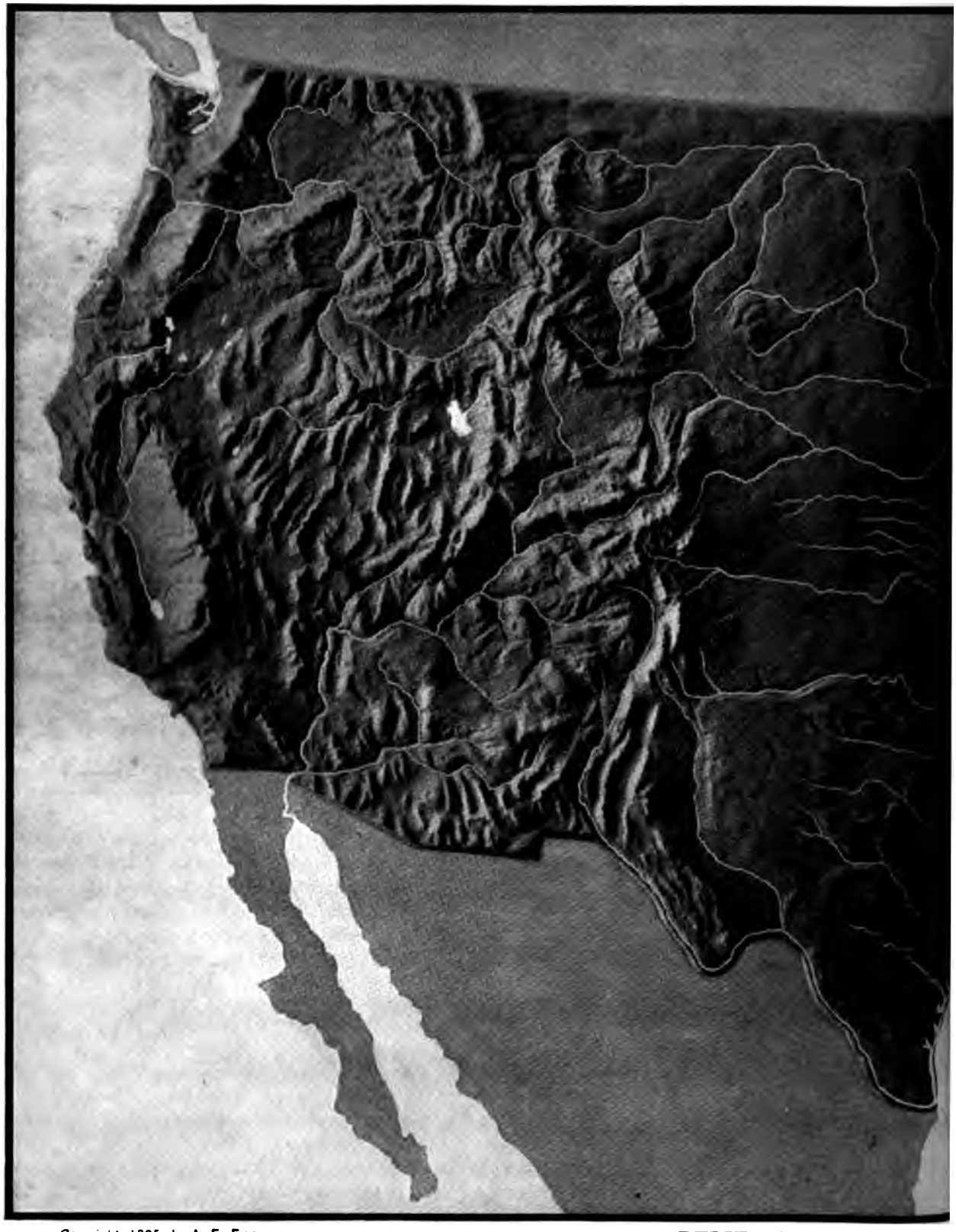
The Indians of Mexico were more intelligent than those in other parts of North America. They had large cities, with temples of hewn stone. They had also made fine roads over the country and bridges across the streams.

The first white people that settled in Canada came from France, a country of Europe. Later the English took the land. The people are therefore chiefly of English or of French descent.

Along the Arctic coast are a few thousand Eskimos. *See lesson 65.* Some of these little yellow people, and a few white settlers, are found also on the southwest coast of Greenland.

TOPICS: — Indians; Negroes; Spanish people; United States; Canada; Eskimos; Greenland.

NORTH AMERICA
SCALE OF MILES
0 200 400 600 800 1000
COMPARATIVE AREA
PENNSYLVANIA 45,000 SQ MILES
THIS RECTANGLE CONTAINS 100,000 SQUARE MILES
Longitude West from Greenwich
ASIA
BERING SEA
ARCTIC OCEAN
GREENLAND
BAFFIN BAY
DOMINION OF CANADA
HUDSON BAY
UNITED STATES
MEXICO
GULF OF MEXICO
WEST INDIES
CARIBBEAN SEA
CENTRAL AMERICA
SOUTH AMERICA
PACIFIC OCEAN
ATLANTIC OCEAN
NORTH POLE
MAGNETIC POLE
ARCTIC CIRCLE
TROPIC OF CANCER
Siberia
Japan
China
India
British Isles
France and Spain
Mediterranean Sea
Sahara
Sudan
Bering Strait
Pt. Barrow
C. Washington
Davis Strait
C. Farewell
Great Bear L.
Great Slave L.
L. Athabasca
Lake Winnipeg
Winnipeg
Sitka
Portland
Columbia R.
VANCOUVER I.
C. Mendocino
San Francisco
Salt Lake City
Denver
Santa Fe
Chicago
St. Louis
Atlanta
New Orleans
Vera Cruz
Gulf of Campêche
C. San Lucas
Quebec
Montreal
OTTAWA
Boston
New York
Brooklyn
Philadelphia
Baltimore
WASHINGTON
Cincinnati
C. Hatteras
C. Sable
Halifax
ST. JOHN'S
NEWFOUNDLAND
C. Race
BERMUDA IS.
BAHAMA IS.
HAVANA
JAMAICA
HAITI
PUERTO RICO
YUCATAN
MEXICO
Rio Grande
Mississippi
Missouri R.
Ohio R.
Arkansas R.
Colorado R.
Nelson R.
Mackenzie R.
Yukon R.
Pt. of Wales
Gulf of California
LOWER CALIFORNIA
CASCADE RANGE
COAST RANGE
ROCKY MOUNTAINS
LABRADOR
APPALACHIAN MTS.
FLORIDA
ISTHMUS OF PANAMA
Nicaragua



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RELIEF MAP OF THE

TED STATES.

A Scene on the Western Plains.

75. Great Central Plain.

A great plain stretches from the Rocky mountains to the Appalachians, and from the gulf of Mexico to the Arctic coast. Its southern part is in the warm belt; more than half of it is in the cool belt; the northern part is in the cold belt.

Plenty of rain falls on nearly every portion of this great plain, except just east of the Rocky mountains in our country. *See rain map on page 71.*

Various names are given to parts of the Central plain. Thus the *Southern plains* extend northward from the gulf of Mexico, and include the part in the warm belt having plenty of rain. These are also called the Gulf coastal plains. *See map on page 63.*

The Southern plains are very fertile. Here are large fields of cotton, corn, rice and sugar cane. The forests yield much valuable lumber.

North of these warm plains lie the *prairies*, south and west of the Great Lakes. *See map on page 63.* The prairies also have deep and rich soil and form the best grain region in the world. Wheat and corn are leading products. Millions of cattle graze on the prairies.

A Prairie Harvest Scene.

Copyright, 1895, by A. E. Frye.

Key to Relief Map on pages 60 and 61.

West of the prairies and Southern plains lie the *Western plains,* reaching to the base of the Rocky mountains. Here the rainfall is light, but grass enough grows to support many cattle.

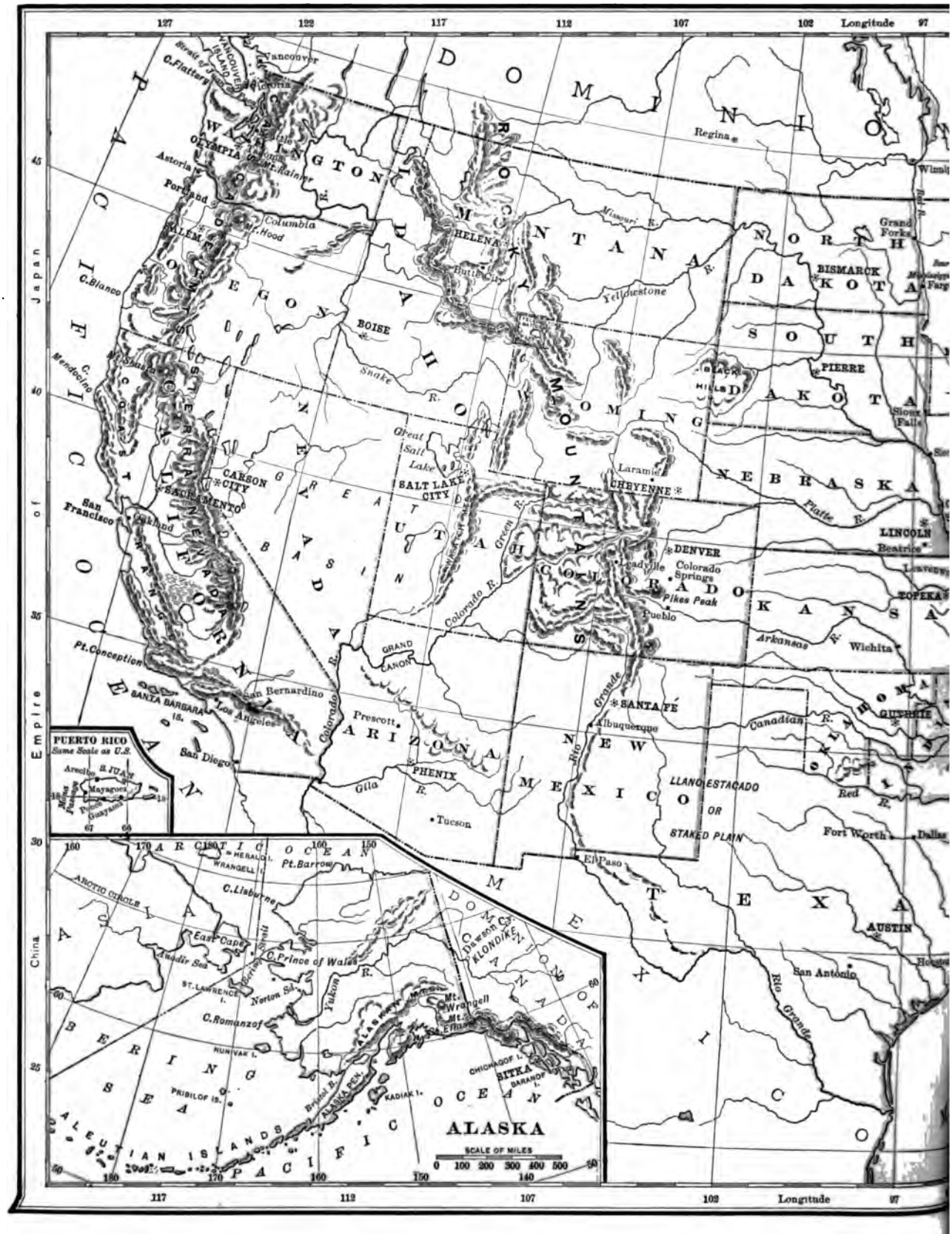
In the far north, beyond the United States, are the cold *Northern plains.* Along the Arctic coast the soil is frozen to a great depth and thaws only a few inches at the surface in summer. South of the frozen plains are mossy and forest regions where many deer (caribou) feed.

Among the great cities of the Central plain are Chicago, on lake Michigan; St. Louis, on the middle Mississippi; New Orleans, not far from the mouth of this river. These cities carry on trade with the farming and grazing regions round them.

The Central plain in the United States is drained almost wholly by the Mississippi river and its many branches. From the west come the Missouri and other large rivers; from the east comes the Ohio. The steamboat traffic on these water ways is very great. The boats carry as freight the various products of the states along the rivers. Railroads cross nearly all parts of the Central plain in our country.

River Front at Detroit, between Lakes Huron and Erie.

TOPICS:—Heat belts of the Central plain; Southern plains; prairies; Western plains; Northern plains; cities of Central plain; Mississippi system.



Longitude
127
122
117
112
107
102
97
45
40
35
30
25
Japan
Empire of
China
DOMINION
PACIFIC OCEAN
WASHINGTON
OREGON
IDAHO
MONTANA
ROCKY MOUNTAINS
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MEXICO
NEVADA
UTAH
COLORADO
ARIZONA
NEW MEXICO
CALIFORNIA
SIERRA NEVADA
COAST RANGE
GREAT BASIN
Vancouver
Victoria
Strait of Juan de Fuca
C. Flattery
Seattle
Tacoma
Mt. Rainier
OLYMPIA
Astoria
Portland
Columbia
Mt. Hood
SALEM
C. Blanco
C. Mendocino
Mt. Shasta
San Francisco
Oakland
Pt. Conception
SANTA BARBARA IS.
San Bernardino
Los Angeles
San Diego
CARSON CITY
SACRAMENTO
HELENA
Butte City
BOISE
Snake R.
Great Salt Lake
SALT LAKE CITY
Green R.
Colorado R.
GRAND CANON
Prescott
PHENIX
Gila R.
Tucson
Missouri R.
Yellowstone R.
Regina
Grand Forks
BISMARCK
PIERRE
BLACK HILLS
Sioux Falls
Laramie
CHEYENNE
Platte R.
LINCOLN
Beatrice
DENVER
Leadville
Colorado Springs
Pikes Peak
Pueblo
Arkansas R.
Wichita
TOPEKA
GUTHRIE
Canadian R.
Red R.
Fort Worth
Dallas
SANTA FÉ
Albuquerque
Rio Grande
LLANO ESTACADO OR STAKED PLAIN
El Paso
AUSTIN
San Antonio
Rio Grande
PUERTO RICO
Same Scale as U.S.
Arecibo
S. JUAN
Mayaguez
Ponce
Guayama
ARCTIC OCEAN
HERALD I.
WRANGELL I.
Pt. Barrow
C. Lisburne
ARCTIC CIRCLE
East Cape
Anadir Sea
C. Prince of Wales
Bering Strait
ST. LAWRENCE I.
Norton Sd.
C. Romanzof
NUNIVAK I.
PRIBILOF IS.
BERING SEA
ALEUTIAN ISLANDS
Bristol B.
ALASKA PEN.
KADIAK I.
Yukon R.
Mt. Wrangell
Mt. St. Elias
CHICHAGOF I.
SITKA
BARANOF I.
Dawson C.
KLONDIKE
DOMINION OF CANADA
ALASKA
SCALE OF MILES
0 100 200 300 400 500

UNITED STATES
SCALE OF MILES
0 50 100 200 300 400 500
CANADA
ATLANTIC OCEAN
GULF OF MEXICO
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
GULF OF ST. LAWRENCE
PRINCE EDWARD I.
CAPE BRETON I.
NOVA SCOTIA
Halifax
Fredericton
Bay of Fundy
St. John R.
Quebec
St. Lawrence R.
Montreal
OTTAWA
Georgian Bay
Toronto
Rochester
Buffalo
Syracuse
Utica
Burlington
MONTPELIER
VERMONT
NEW HAMPSHIRE
MAINE
AUGUSTA
MT. DESERT I.
Portland
CONCORD
BOSTON
C. Cod
PROVIDENCE
NEWPORT
MASS.
CONN.
HARTFORD
ALBANY
NEW YORK
Scranton
Jersey City
Newark
New York
Brooklyn
TRENTON
JERSEY
Wilmington
DOVER
Reading
Philadelphia
PENNSYLVANIA
HARRISBURG
Pittsburg
Allegheny
Cleveland
Toledo
Detroit
LANSING
Saginaw
Grand Rapids
MICHIGAN
Milwaukee
MADISON
WISCONSIN
La Crosse
Chicago
Fort Wayne
OHIO
Wheeling
COLUMBUS
Cincinnati
Dayton
INDIANAPOLIS
INDIANA
Peoria
Quincy
SPRINGFIELD
Terre Haute
Evansville
Covington
FRANKFORT
Louisville
KENTUCKY
WEST VIRGINIA
CHARLESTON
VIRGINIA
MARYLAND
WASHINGTON
ANNAPOLIS
Baltimore
RICHMOND
Norfolk
NORTH CAROLINA
RALEIGH
C. Hatteras
Wilmington
SOUTH CAROLINA
COLUMBIA
Charlotte
Charleston
Savannah
Augusta
GEORGIA
ATLANTA
Macon
MONTGOMERY
ALABAMA
Birmingham
Chattanooga
Knoxville
NASHVILLE
TENNESSEE
Memphis
MISSISSIPPI
JACKSON
Vicksburg
BATON ROUGE
New Orleans
Mobile
Pensacola
FLORIDA
TALLAHASSEE
Jacksonville
St. Augustine
L. Okeechobee
C. Sable
Key West
Florida Strait
Mississippi R.
Tennessee R.
Chattahoochee R.
Savannah R.
Pearl R.
Wabash R.
Ohio R.
Kentucky R.
Cumberland R.
Tennessee R.
Mississippi R.
St. Louis
LITTLE ROCK
JEFFERSON CITY
MOINES
Burlington
Quebec
St. Lawrence R.
DOMINION OF CANADA
Montreal
Bangor
AUGUSTA
Rockland
Auburn
Lewiston
Portland
Biddeford
Portsmouth
C. Ann
BOSTON
C. Cod
Lynn
Lowell
Manchester
Nashua
Worcester
Springfield
MASSACHUSETTS
NEW HAMPSHIRE
MAINE
MONTPELIER
VERMONT
CONCORD
Nutlaw
Troy
ALBANY
CATSKILL MTS.
HARTFORD
PROVIDENCE
CONN.
Waterbury
Meriden
New Haven
Bridgeport
Yonkers
Paterson
Newark
New York
Brooklyn
Sandy Hook
LONG ID.
Long I. Sound
Montauk Pt.
RHODE ID.
NEWPORT
VINEYARD
NANTUCKET I.
PENN.
NEW JERSEY
Philadelphia
TRENTON
Camden
Wilmington
Baltimore
ANNAPOLIS
DOVER
WASHINGTON
MARYLAND
C. May
Delaware Bay
C. Henlopen
VIRGINIA
RICHMOND
Chesapeake Bay
C. Charles
C. Henry
Norfolk
Portsmouth
NEW ENGLAND
AND COAST OF
MIDDLE ATLANTIC STATES
(On enlarged scale)
SCALE OF MILES
0 25 50 100 150 200
from 87 Greenwich 82 77 72 67 62
92 from 87 Greenwich 82 77 72
France
Italy
Greece
Algeria
Egypt
Bradley & Pontes, Engr's, N.Y.

Scene in the Appalachian Highland; Valleys cut in Plateau.

76. Great Lakes.

Name the Great Lakes. From which lake does the St. Lawrence river flow? Between which two lakes does the Niagara river flow?

About halfway between the gulf of Mexico and the Arctic ocean a low swell of land runs eastward from the Rocky mountains. It is called the *Height of Land.*

Some parts of this height are hilly, but in most places the land slopes away so gently that it looks level; yet the Height of Land forms the divide between the Mississippi system and the streams that flow northward or northeastward into Hudson bay.

Niagara Falls.

The Great Lakes are in a chain of valleys on the southeast slope from the Height of Land. The St. Lawrence river flows from the lowest of the lakes. Chicago is the largest port on the Great Lakes. Cleveland, Buffalo and Detroit are other large lake ports. Montreal is an important port on the St. Lawrence river.

Canals have been made between lakes Superior and Huron, and from lake Erie to lake Ontario. Vessels can now go from one lake to any of the others; also down the St. Lawrence river. The Erie canal joins lake Erie with the Hudson river that flows down to New York city.

The Niagara river, flowing from lake Erie to lake Ontario, is noted for the grand falls which are about midway between the lakes.

Just above the falls the river is about a mile wide. Below this point the stream narrows and plunges from a precipice over a hundred and fifty feet high.

TOPICS: — Height of Land; Great Lakes; lake and river ports; Niagara falls.

77. Appalachian Highland.

The mountains of the Appalachian highland are not very high. They consist chiefly of long rounded ridges or folds. *See picture on page 12.* A large part is a plateau cut by valleys.

The highest peaks are near the southern end of the highland. The Adirondacks and White mountains, in the northeast part of our country, are famous for their beauty. *See map on page 63.*

The Appalachian highland is well watered and is forest-clad. The mountain folds yield great quantities of coal and iron. Pittsburg is noted for its iron works.

TOPICS: — Appalachian highland; products.

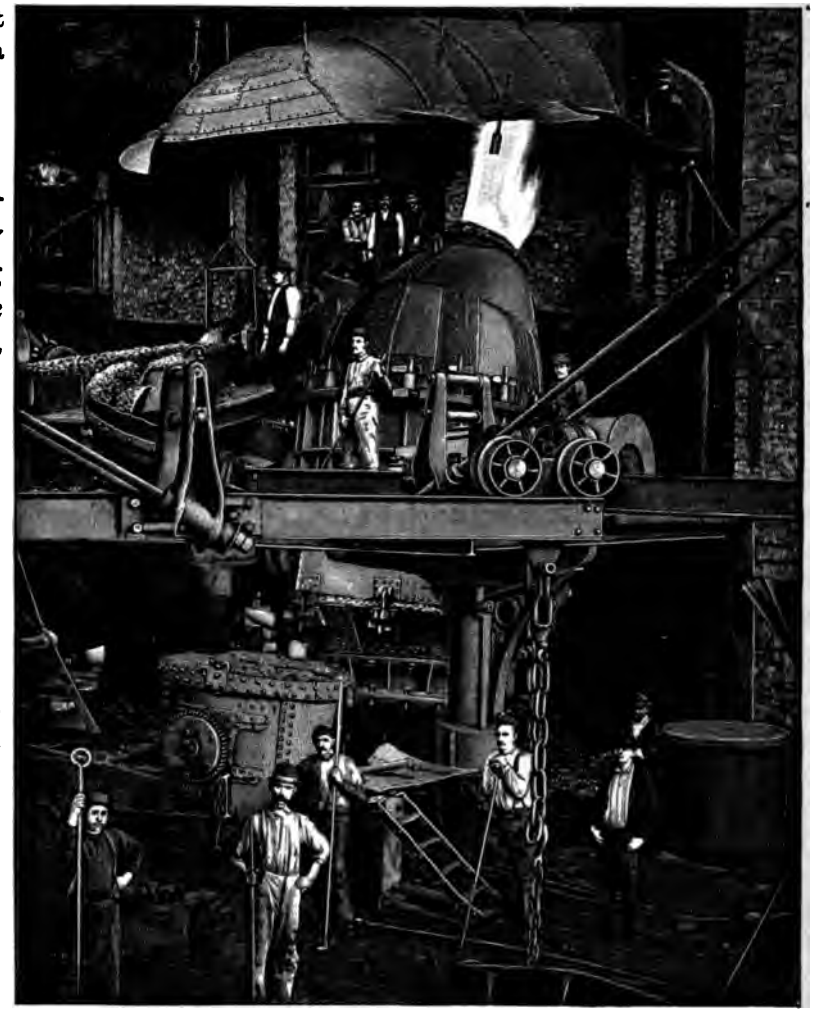
78. Atlantic Slope.

The slope east of the Appalachian highland is called the *Atlantic slope*. The lower and smoother part of this slope is also known as the Atlantic coastal plain. *See map on page 63.*

Many short rivers flow down the Atlantic slope. Some of them are deep enough to float large vessels.

The southern half of this slope merges into the Southern plains and has the same kinds of products. Cotton and rice are raised in great quantities. The forests yield hard pine, tar and rosin.

In the northern half of the Atlantic slope are found several great ports that rank among the largest cities in the country. Among these are New York, Philadelphia, Boston and Baltimore. They are on fine harbors and carry on a large trade with seaports in many parts of the world.



Iron Works, Pennsylvania.

NOTE: — The picture shows a huge retort in which hot air is being forced through liquid iron, changing it to steel.

TOPICS: — Southern half of Atlantic slope; products; northern half of Atlantic slope; ports.

79. People of the United States.

Who was Columbus? When did he live? What people lived in America at that time?

Nearly all the early settlers in the land now called the *United States* made their homes along the Atlantic coast.

Let us see why: —

a. The early settlers came from Europe and landed on the east coast.

b. There were no roads nor long rivers leading inland from this coast to the prairies.

c. The Appalachian highland stood between the Atlantic coast and the prairies.

d. Savage tribes held the lands that were a little back from the coast.

e. The settlers wished to trade with the ships from Europe.

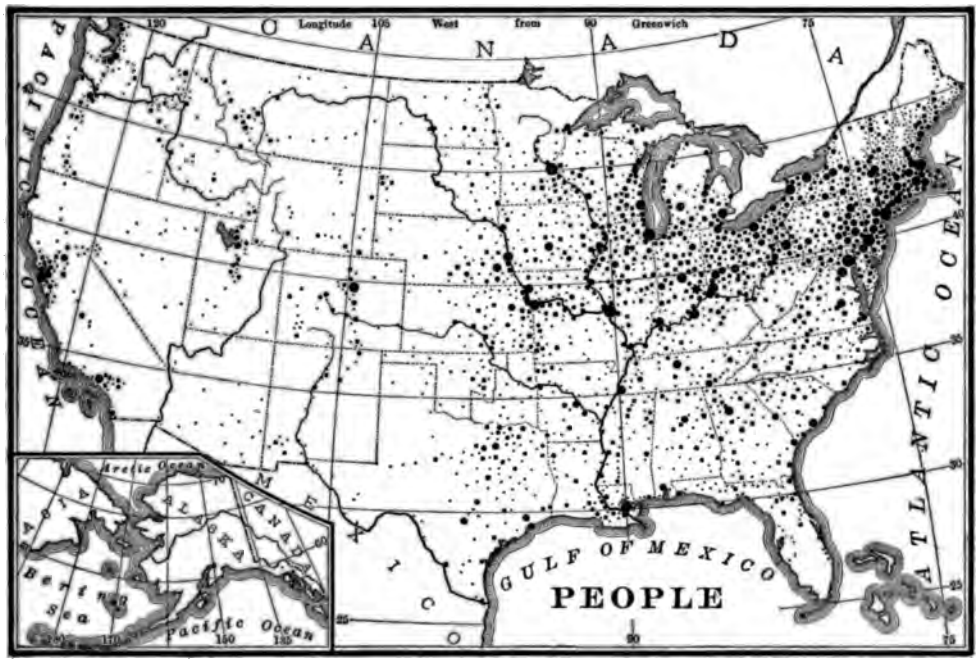
After a time, people found that there were fertile prairies west of the mountains, and that they could reach the prairies by sailing down the Ohio river or up the Great Lakes. Many also went up the Mississippi river from its mouth.

About fifty years ago gold was found in California, near the Pacific coast, and many people went there in search of fortunes. The wheat fields and orange groves now yield many times the value of the gold mined there.

Liberty Bell.

Some crossed the vast plains and basin region, in wagons or on horses. Others sailed round cape Horn. Still others went in vessels to the isthmus of Panama, crossed that neck of land, and then sailed up the coast. Thus the west shore of our country was settled.

From time to time new deposits of silver and gold were found in many parts of the Rocky mountain highland. Mining camps soon grew to be towns or cities, and thus even the great highland was settled.



The dots on this map show the location of cities and towns. Where are the cities largest and thickest?[1]

Which has the greater number of cities, the Mississippi basin or the Rocky mountain highland? What part of the Mississippi basin is most thickly settled?

Towns soon grew up along the lakes and rivers. Many of the towns were trading stations where the Indians sold furs for beads, knives, powder and other articles.

Which is the more thickly settled, the *Pacific slope* or the *Atlantic slope?* Can you tell why?

[1] The star on the map shows the center of population, according to latest census.

About one tenth of the people of the United States are Negroes.

A long time ago, many black people from Africa were sold as slaves in the United States. Their labor proved most helpful in the cotton fields of the South.

At length all the slaves were set free, and most of them made their homes on the Southern plains where they had worked. There are many more white people than Negroes in the South.

The number of Indians in the United States is very small compared with the number of Negroes. The red-brown people of the United States have in most cases been placed on lands set apart for them in various parts of the country.

Orange Grove in Southern California.

80. From Colonies to States.

Each band of early settlers formed a *colony*. The people of the colonies were called *colonists*. Most of those who made their homes along the Atlantic coast came from England.

During the wars which the colonists had with the Indians, many of the small colonies united to form larger ones. After a time there were thirteen large colonies.

Minute Man.

The king of England made the colonists pay unjust taxes, without giving them any right in helping to make laws; and at length wise men in the colonies were chosen to decide what should be done.

On *July 4, 1776*, these chosen men voted to declare their land free from English rule, and to form a new nation.[1] Each colony was called a *state*, and all the states together formed the *United States of America*.

At that time the United States held the land as far west only as the Mississippi river. The country now reaches from ocean to ocean, and many new states have been formed.

The city of Washington is the capital of the country.

All the states send men to Washington, and these make laws for the whole nation. Each state is also somewhat like a nation and can make laws for itself, but such laws must not conflict with those made in Washington.

Each state has a capital. Cities and towns that are capitals are marked by stars (✲) on the maps.

Find out all you can about the "minute men."

[1] They voted "to assume, among the powers of the earth, the separate and equal station to which the laws of nature and of nature's God entitled them." — *Declaration of Independence.*

The "liberty bell" was the first to ring out the glad news of freedom. This old bell still hangs in Independence Hall, in the city of Philadelphia.

81. Heat and Rainfall.

The southern part of the United States is in the warm belt. There the summers are hot and the winters cool, but even in the coldest months there is little frost.

The greater part of the United States is in the cool belt. Here the summers are warm, with many hot days, but the winters are cold. In the Northern states the rivers freeze over and the ground is often covered with snow.

The most important months to the farmers in the prairies are in the spring and summer, when most of the crops are growing. One of the maps on the next page shows the rainfall of both spring and summer.

The figures on this map show the average number of inches of rainfall during the spring and summer. Regions having less than 15–20 inches often suffer from drouths.

Picking Cotton.

The rainfall in spring and summer is heavy along the northern shore of the gulf of Mexico, where the moist gulf winds blow inland. Plentiful rains fall also far northward to the Great Lakes, watering the Southern plains and the prairies, as well as the states of the Atlantic slope.

The northern half of the Pacific coast then receives heavy rains from the westerly winds that blow over the Pacific, but the Western plains and the Rocky mountain highland do not have rain enough to insure good crops.

Topics: — Belts of heat; seasons; rainfall of Southern plains and prairies; Atlantic slope; Western plains; Rocky mountain highland; Pacific coast.

82. Cotton.

In what part of the United States is cotton raised? *See dark tint on map.*

The cotton region, or "belt," reaches from the gulf of Mexico about halfway to the Great Lakes. It is mostly in the *warm belt* and has long hot summers and short cool winters.

The cotton fields reach the sea on the east and south, and the dry plains on the west. Cold seasons prevent this plant from growing farther north. The cotton region has plenty of rain all the year. It is brought by warm winds from over the gulf of Mexico and from over the sea on the east.

New Orleans[1] is the leading city in the cotton trade.

About one half the people on the earth wear clothing made wholly from the fiber that grows around cotton seeds. Nearly all the rest of the human race, except the lowest savages, use it in some portion of their dress. Part of the fiber is also made into thread and rope.

Machines, called *cotton gins* (meaning *engines*), are used to separate the fiber from the seed. The gin has little saw teeth that draw the fiber through slits too narrow to admit the seed.

The best cotton grows on low islands along the Atlantic coast. It is known as *Sea island cotton*, and its fiber is long, fine and strong. The states of the northern half of the At-

[1] Locate each city named in the text. Tell in which state it is located; also where it is, — whether near a large river, lake, bay, gulf, mountain range or near the shore of some ocean.

lantic slope make millions of yards of cotton cloth every year. Many cotton mills are also run in some cities of the South.

The soil of the prairies is warm and mellow in summer. Once in a while there is a very dry season, but as a rule there is plenty of rain.

The prairies are the richest grain region on earth. One of the leading grains is *corn*. This grain is raised also in all parts of the Southern plains and in every state along the Atlantic coast.

The principal corn states lead also in the value of their cattle and hogs.

Name the cotton states that border on the gulf of Mexico. Name four along the Atlantic coast; two that have no seacoast.

Locate the following cotton ports: New Orleans, Savannah, Galveston, Charleston, Norfolk.

The Atlantic states from Maine to Pennsylvania lead in cotton manufactures; name these states. In what state is the delta of the Mississippi? What cotton states are separated by the Mississippi river?

83. Indian Corn.

The rich prairies between the cotton region and the Great Lakes are in the *cool belt*. There the hot and the cold seasons are of about equal length.

Corn is often ground to meal and is then made into various kinds of bread. Green corn is boiled on the

cob, and used as food. When corn is *thickly sown* ears do not form, but the stalks are rich and sweet. These are used as fodder or food for cattle.

Frost kills growing corn, and cold nights hinder its growth. For these reasons, it does not grow so far north as some hardier grains.

When the white men came to America, they found that the Indians had large fields of corn. This useful grain was then taken to Europe, and later to nearly all lands having long and hot summers.

Chicago is the center of the corn trade in the United States.

Thousands of shiploads of grain are sent down the Great Lakes from this city. A large part of this grain passes through the Erie canal.

84. Wheat.

To the people of the United States, *wheat* is the most valuable of all grains.

Wheat is used chiefly in making flour. The little seed or fruit consists of a grain inside a husk. Only the inner part of the grain is ground into fine white flour.

Wheat thrives all over the rich prairies, and even far north across the border of the United States. This grain stands cold nights and frost much better than corn does, and so is raised much farther north. Wheat grows chiefly in the *cool* and the *warm belts*.

The valleys of the Pacific slope yield large crops of this useful grain.

A large part of the wheat crop passes through Chicago. Every year this city ships many million bushels by steamer and by rail. The chief ports that handle wheat are New York, Baltimore and San Francisco. Minneapolis leads the world in making flour.

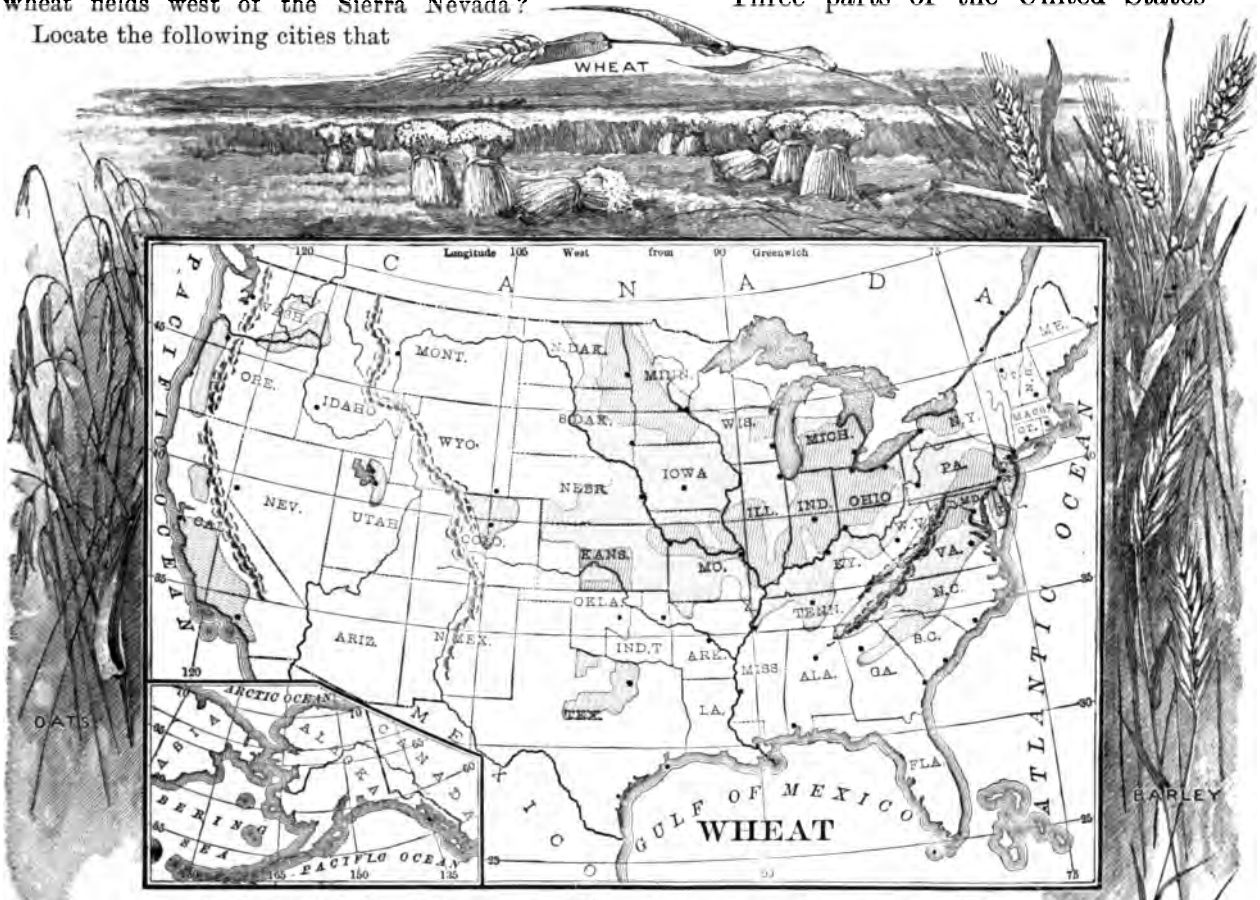
It is not known where wheat was first found, but it is not a native of America.

Wheat is often sown for hay, and the stalks make good straw.

Name three prairie states in the richest portion of the corn and wheat belt north of the Ohio river. *See dark tint on corn and wheat maps.* Name four of the chief corn states west of the Mississippi. What

large branch of the Mississippi flows through this corn area? What three states share the rich wheat fields in the valley of the Red river (of the North)? Name three states having good wheat lands east of the Appalachian highland. What long state has fertile wheat fields west of the Sierra Nevada?

Locate the following cities that



Three parts of the United States

are in the grain belt: Chicago, St. Louis, Kansas City, Minneapolis, St. Paul, Buffalo, Detroit, Cincinnati, Toledo.

Locate the following cities that export great quantities of grain: New York, San Francisco, Baltimore.

85. Forests.

What objects that you can now see are made of wood? Can you name a tree that gives us food, and one that helps to warm us? Have you ever taken any kind of medicine that comes from a tree?

Which is the prettiest wood that you have seen in furniture? Do you know of two kinds of trees that are used in building houses?

What parts of wagons are made of wood? Name some wooden weapons. Of what do Indians make canoes?

What kinds of trees grow near your school?

Great rain to why the

have very few trees. These are the prairies, the Western plains and the Great Basin. The Western plains and the Basin do not receive enough support forests. No one knows prairies are not forest-clad.

Before the white people settled on the prairies, the Indians often set fire to the grass so that it would spring up fresh and green for the herds of bisons. Perhaps long ago there were trees on the prairies. If there were, the fires killed the young trees, and when the large trees died from old age there were none there to take their places.

81. Heat and Rainfall.

The southern part of the United States is in the warm belt. There the summers are hot and the winters cool, but even in the coldest months there is little frost.

The greater part of the United States is in the cool belt. Here the summers are warm, with many hot days, but the winters are cold. In the Northern states the rivers freeze over and the ground is often covered with snow.

The most important months to the farmers in the prairies are in the spring and summer, when most of the crops are growing. One of the maps on the next page shows the rainfall of both spring and summer.

The figures on this map show the average number of inches of rainfall during the spring and summer. Regions having less than 15–20 inches often suffer from drouths.

The rainfall in spring and summer is heavy along the northern shore of the gulf of Mexico, where the moist gulf winds blow inland. Plentiful rains fall also far northward to the Great Lakes, watering the Southern plains and the prairies, as well as the states of the Atlantic slope.

The northern half of the Pacific coast then receives heavy rains from the westerly winds that blow over the Pacific, but the Western plains and the Rocky mountain highland do not have rain enough to insure good crops.

TOPICS: — Belts of heat; seasons; rainfall of Southern plains and prairies; Atlantic slope; Western plains; Rocky mountain highland; Pacific coast.

82. Cotton.

In what part of the United States is cotton raised? *See dark tint on map.*

The cotton region, or "belt," reaches from the gulf of Mexico about halfway to the Great Lakes. It is mostly in the *warm belt* and has long hot summers and short cool winters.

The cotton fields reach the sea on the east and south, and the dry plains on the west. Cold seasons prevent this plant from growing farther north. The cotton region has plenty of rain all the year. It is brought by warm winds from over the gulf of Mexico and from over the sea on the east.

New Orleans[1] is the leading city in the cotton trade.

Picking Cotton.

About one half the people on the earth wear clothing made wholly from the fiber that grows around cotton seeds. Nearly all the rest of the human race, except the lowest savages, use it in some portion of their dress. Part of the fiber is also made into thread and rope.

Machines, called *cotton gins* (meaning *engines*), are used to separate the fiber from the seed. The gin has little saw teeth that draw the fiber through slits too narrow to admit the seed.

The best cotton grows on low islands along the Atlantic coast. It is known as *Sea island cotton*, and its fiber is long, fine and strong. The states of the northern half of the At-

[1] Locate each city named in the text. Tell in which state it is located; also where it is, — whether near a large river, lake, bay, gulf, mountain range or near the shore of some ocean.

lantic slope make millions of yards of cotton cloth every year. Many cotton mills are also run in some cities of the South.

Name the cotton states that border on the gulf of Mexico. Name four along the Atlantic coast; two that have no seacoast.

Locate the following cotton ports: New Orleans, Savannah, Galveston, Charleston, Norfolk.

The Atlantic states from Maine to Pennsylvania lead in cotton manufactures; name these states. In what state is the delta of the Mississippi? What cotton states are separated by the Mississippi river?

83. Indian Corn.

The rich prairies between the cotton region and the Great Lakes are in the *cool belt*. There the hot and the cold seasons are of about equal length.

The soil of the prairies is warm and mellow in summer. Once in a while there is a very dry season, but as a rule there is plenty of rain.

The prairies are the richest grain region on earth. One of the leading grains is *corn*. This grain is raised also in all parts of the Southern plains and in every state along the Atlantic coast.

The principal corn states lead also in the value of their cattle and hogs.

Corn is often ground to meal and is then made into various kinds of bread. Green corn is boiled on the

The trees of the Pacific slope are chiefly soft-wood, such as pine and fir. Those in the eastern part of the country are largely hard-wood, such as maple and oak. There are also dense forests of pine stretching westward from Maine, around and far beyond the Great Lakes.

There are valuable hard-pine forests in the South.

Tar and rosin are valuable products of the Southern forests. Savannah and Wilmington lead in the export of these products. Do not think that trees cover all places shaded on the map. In the forest regions there are millions of acres of grass, cotton, grain, tobacco and scores of other kinds of useful plants. Name the three states that produce the most lumber in the upper region of the Great Lakes. Name four states farther east in the pine forest belt.

What states have valuable forests west of the Sierra Nevada and Cascade mountains?

Name four lumber states in the Appalachian region; four in the lower Mississippi valley.

Locate those cities that have a large trade in lumber: Chicago, Minneapolis, Bangor, Pensacola.

86. Cattle and Sheep.

What kind of meat do you like best? What animals supply mutton? Pork? Beef? Veal?

How is butter made? What is cheese made of?

What uses are made of the hides of cattle?

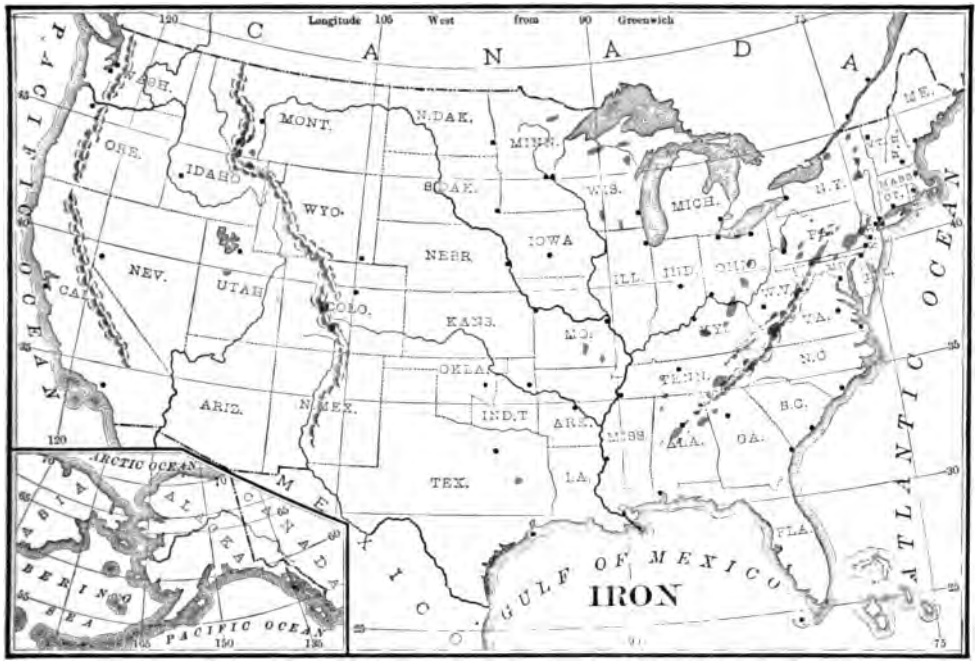
There are thousands of cattle in even the smallest of the states, but millions graze on the prairies and Western plains.

Texas is the leading cattle state. Iowa holds second place. The cattle of the Western plains are raised chiefly for beef and hides. The hides are sent East to be made into leather.

A large part of the wealth of the people who live on the prairies consists of cows. These are kept not only for milk, but also for butter and cheese.

The milk room on a farm is called a *dairy*. Milk, butter and cheese are *dairy products*.

New York is the leading dairy state. The other states also that border on the Great



ture many iron steamers, — the former for ocean trade and the latter for shipments on the Great Lakes.

Which states lead in the production of iron (*see text*)? Locate the two cities that manufacture the most iron. Locate two cities that make many iron steamers.

89. Gold and Silver.

Do you know any of the uses of gold? Name some articles that are made of silver. Can you name the silver coins used in the United States? Can you name the gold coins?

Which is the more useful, gold or iron?

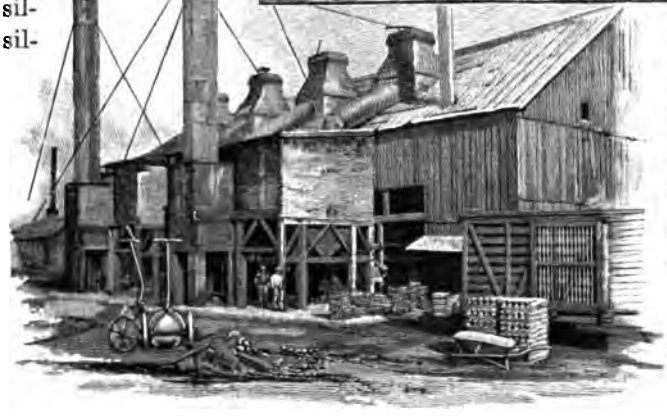
Pure gold is taken from the beds of streams, and also out of the ground. Gold is often mixed with other substances in rocks. Silver is rarely found in a *pure* state in nature. Gold and silver are often found in the same rock or *ore*. The metal is taken from the ore at a smeltery.

The states in the Rocky mountain highland yield nearly all the gold and silver mined in this country.

The states around the southern part of the Appalachians yield some gold.

California supplies about one third of the gold, and Colorado about one third of the silver. Montana takes second place in the production of silver. Both of these "precious metals" are found in nearly all the ranges of the Western highland, but the Rocky mountains lead in the output of silver and the Sierra Nevada in gold.

Mining Town.



A Smeltery.

Alaska has rich deposits of gold.

Name two states having gold mines in the

Name five states in the Appalachian coal belt. What two states north of the Ohio river produce the most coal? Locate these cities that have a large trade in coal: Philadelphia, Pittsburg, Chicago, and Buffalo.

88. Iron.

What objects can you now see that are made of iron? What iron articles are used in your homes?[1] Name ten iron tools; five iron weapons; three iron machines. What iron goods have you seen in stores? Name some of the uses of iron on railroads? Do you know what steamships are made of?

When some kinds of rock are heated very hot they melt and iron comes from them. The rocks which contain iron are called *iron ores*.

Some iron ore is dug from the ground. It is in layers, like coal, but we do not know exactly how the iron rocks were formed. Coal is used in melting iron ore, and it often happens that coal and iron are found near the same places. Many large cities owe their growth to this fact, because they can make many kinds of iron articles.

[1] Steel is one form of iron.

Coal Ferns.

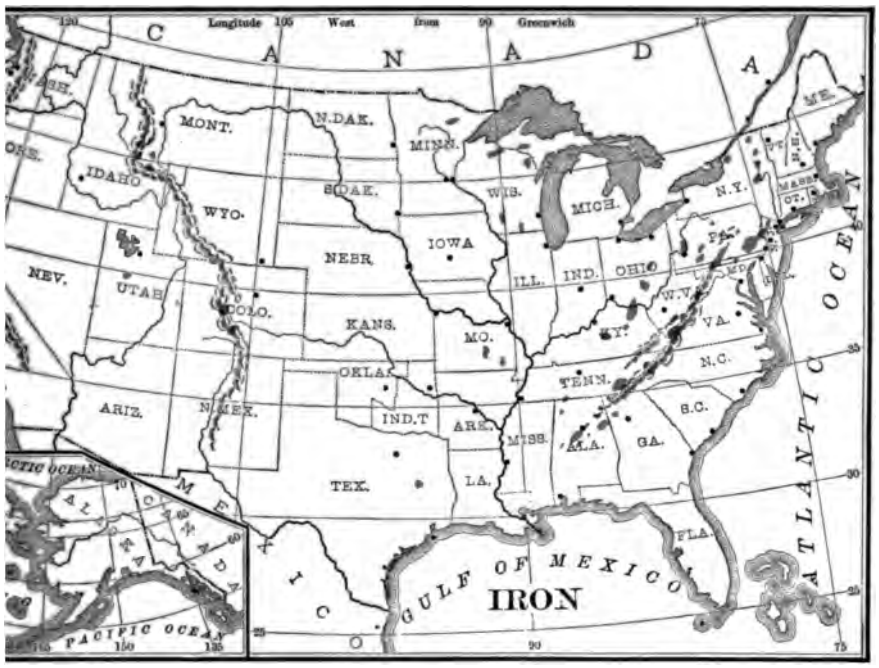
Coal Breaker.

The richest iron mines in this country are near lake Superior. In the production of iron ore, Michigan leads all other states. Pennsylvania, New York and Alabama also have very rich mines of iron ore.

The great centers of steel and iron manufacture are Chicago and Pittsburg. Here are made most of the steel rails used in this country; also armor plates for warships, steel plates for other steamships, and nearly every kind of tool and machine.

It is the nearness of coal and iron mines that places these cities in the lead.

Philadelphia and Cleveland manufac-



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Gold and Silver.

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Alaska has rich deposits of gold.

Name two states having gold mines in the

Mining Town.

A Smeltery.

Sierra Nevada. Name two having the richest gold and silver mines in the Rocky mountains.

What mining states or territories are crossed by the Rocky mountains?[1] By the Sierra Nevada? By the Cascade range? What mining states are between the Rocky mountains on the east and the Sierra Nevada and Cascade mountains on the west?

Locate the following cities that owe their growth largely to their nearness to gold and silver mines: San Francisco, Denver, Salt Lake City.

90. Other Products.

Tobacco. The chief tobacco regions are in the Ohio river valley and on the Atlantic slope from North Carolina to Vermont. Louisville and Richmond are well-known tobacco markets.

Fruits. Every state raises various kinds of fruit. Some of the fruits are widespread.

Delaware, Georgia and other states of the prairies and Atlantic slope supply peaches. Apples and pears thrive in all the prairie states and also eastward to Maine. One of the best grape districts is along the southern shore of lake Erie and eastward in the Mohawk valley; another is in the long valley of California. Most of the grapes raised in the latter valley are cured and sold as raisins.

The best oranges in the world are raised in California and Florida.

Horses. When the white men first came to America there were no horses nor cattle here. These useful animals are now widespread over the country, but most of them are in the prairie farming regions.

Hogs. About as much pork is produced in the United States as in all Europe. Most of the hogs in our country are raised in the corn belt, for much corn is used to fatten hogs. Chicago, Kansas City (Kansas) and Cincinnati lead in pork packing.

Fisheries. Oysters are the most valuable food product of our shore waters. These shellfish are found along many parts of the Atlantic coast, but about four fifths of them are taken from Chesapeake bay.

Baltimore has the largest trade in oysters.

Cod and haddock abound on the *banks*, or shoal places, off the northeast coast of the continent. Many mackerel are caught along the same coast. Salmon are taken from the Columbia river and from the bays and rivers of Alaska. The Great Lakes supply various food-fish.

[1] Alaska, Arizona, Indian Territory, New Mexico and Oklahoma have not yet been given all the rights of states, but are known as *territories*.

Petroleum. Most of the petroleum used in the United States flows or is pumped from wells in the valleys of the upper Ohio river and of the branch streams of this river. The states of Pennsylvania and Ohio yield the most oil.

Copper. The richest copper mines in the world are in Montana and northern Michigan. Arizona also has good copper mines.

Building Stone. Vermont is famous for its marble, and this state supplies more than half that is used in our country.

New England yields the most and the best granite. Pennsylvania produces more than half the slate used for roofing and flagging.

Many states have quarries of limestone and sandstone. As a whole, the Appalachian region supplies the best building stone.

Lead and Zinc. The silver ores of the Rocky mountains yield much lead and zinc. Large quantities of these metals come also from other ores found in the prairie states of the Mississippi valley.

TOPICS: — Tobacco; fruits; horses; hogs; fisheries; petroleum; building stone; lead and zinc.

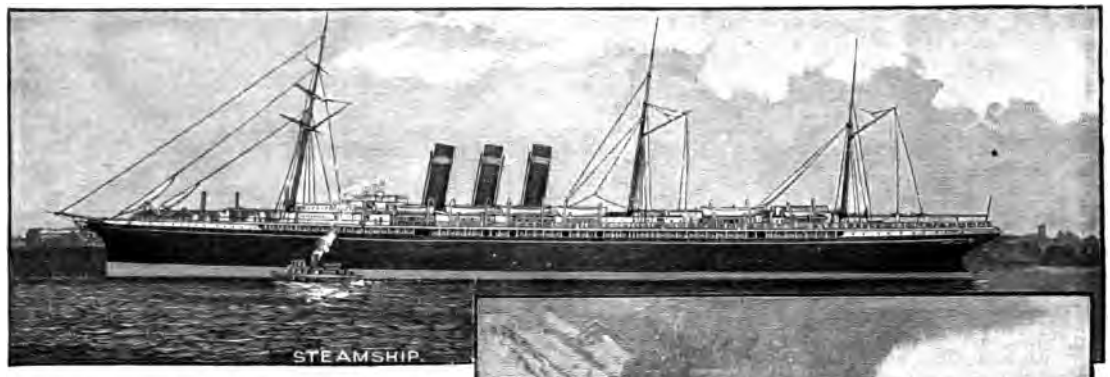
91. Routes of Trade.

Reading Lesson.

Rivers, railroads and oceans are the chief highways of trade. Much has been done to improve many of these highways. Rocks have been taken out of rivers and harbors, and sand bars have been dredged away. Canals have been made round rapids and waterfalls, as well as from river to river and from sea to sea.

It is far cheaper to carry goods by water than by land. On the sea there are no costly roads nor tracks to be built and kept in repair.

Every producing region needs one or more shipping points. These become centers of trade. They should be within easy reach of all parts of the region, and should connect by rail, water or other route, with the markets of the world.


STEAMSHIP.

FREIGHT TRAIN

CANAL BOATS.

Railroads cross the United States from ocean to ocean, by half a dozen routes. They run along every sea coast. They wind with great rivers. They climb mountains and cross canyons.

Years ago rivers were the chief highways of inland trade, but now railroads have taken the first place. To-day cities and towns are dotted all along the lines where freight trains gather up the products of farm, forest and mine. Some canals, like the Erie canal, are very useful in carrying freight, when speed is not an object. Grain, lumber and coal are often seen in the barges or boats on this canal.

RELIEF MAP OF SOUTH AMERICA.

SOUTH AMERICA.

92. Surface of South America.

What oceans border on South America? Which part of the world ridge is in this continent? Along which coast does it extend?

Which part of the Andes highland looks the widest? *See relief map.* Which part looks the highest?

On which slope of the Andes are there no long rivers? Why?

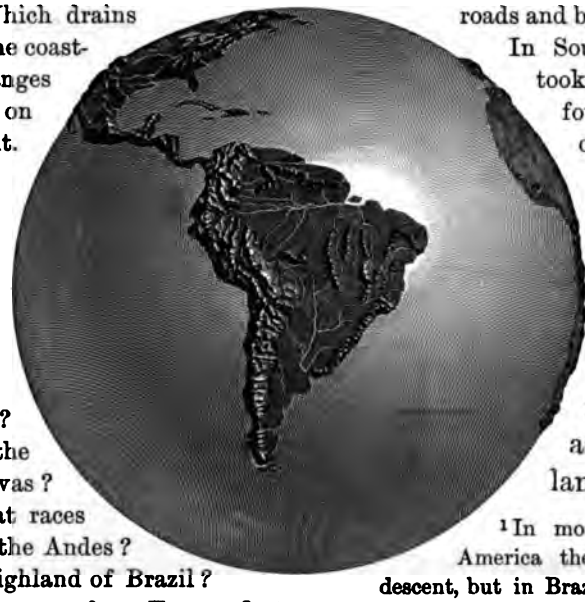
Where is cape Horn? Where is the isthmus of Panama?

What highland is in the eastern part of South America? Where is the highland of Guiana? Which of the three highlands looks the highest? The longest?

What large river flows eastward near the equator? What highlands are on the north and the south of the Amazon basin?

In what highland does the Parana river rise? This river and all other rivers that send water to the Plata river form the Plata system; in what general direction do the rivers of the Plata system flow? What river drains the plain between the Guiana highland and the northern part of the Andes?

Which is the largest river system, the Orinoco, the Amazon or the Plata? Which drains the largest plain? Sketch the coast-line, rivers and mountain ranges of South America, as shown on the *guide map* in supplement.



93. People of South America.

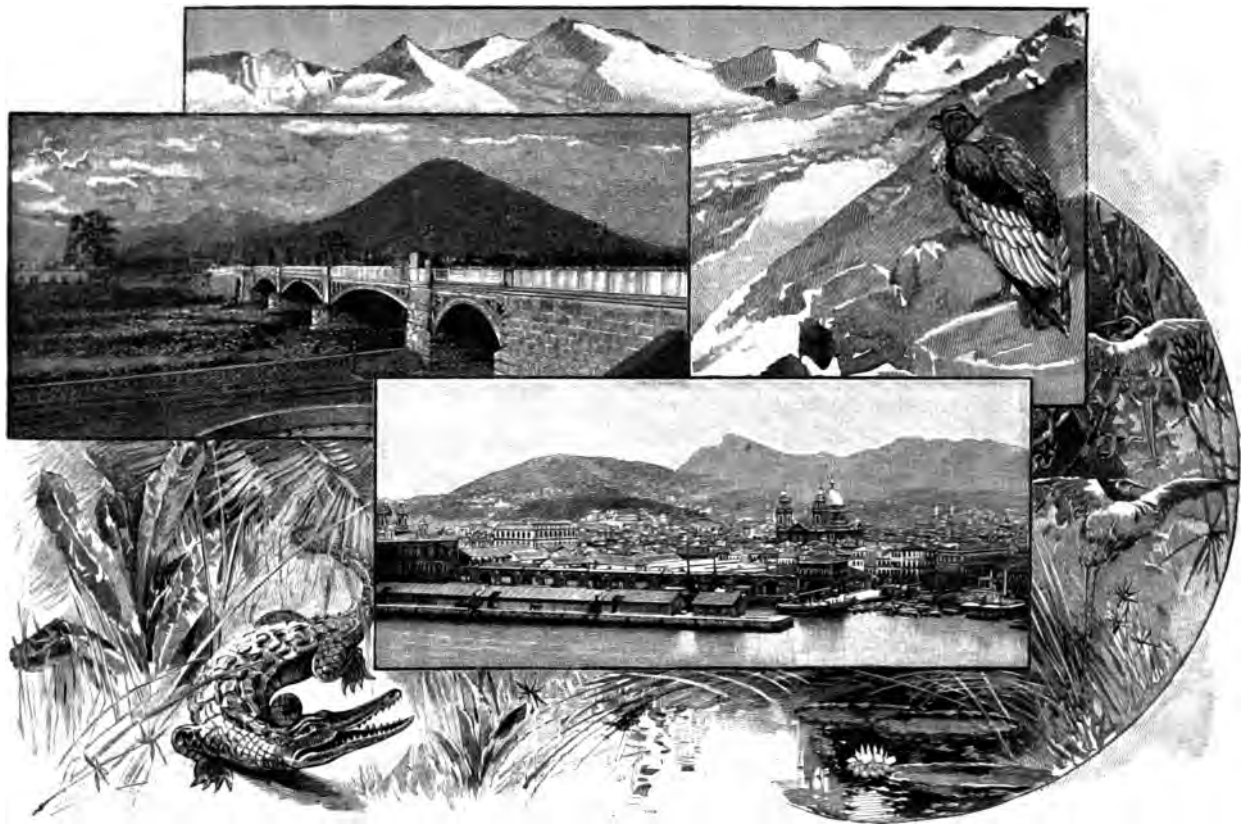
In what parts of South America have most of the white people settled? *See map, page 53.* Along which coast are there Negroes? What race is found in the inland parts of the selvas? Llanos and pampas? What races live in the countries along the Andes? In the eastern part of the highland of Brazil?

About 400 years ago, white men from Europe first came to America. They found the land settled by Indians. *See lesson 62.* Most of the red men were savages, but in the middle Andes and in the plateau of Mexico (*see map on page 57*) they had made good roads and built bridges and stone temples.

In South America the white men took land from the Indians, and founded colonies, all of which, except in Guiana, in time became free and formed countries.

Millions of white people now live in the Andes countries and in the lands along the Atlantic coast.[1] Indians also are found in the same regions, as well as all over the inland plains.

[1] In most of the countries of South America the white people are of Spanish descent, but in Brazil they are chiefly of Portuguese descent. The white people of the colonies of Guiana are mainly British, French and Dutch.



Many Negroes were brought as slaves from Africa to South America. They worked mostly in a narrow belt of land near the Atlantic coast. When the slaves were set free they made their homes in the lands where they had worked.

TOPICS: — Indians; white people; Negroes.

94. Countries of the Andes.

What long country lies almost wholly on the west slope of the Andes? Name the large country east of Chile.

Name two countries in the widest part of the Andes. What small lake lies between them? Where is the desert of Atacama?

Which Andean country is crossed by the equator? In which country is the isthmus of Panama?

Which countries of South America border on the Pacific? Name the Andean countries that are partly bounded on the east by Brazil.

The village shown on page 84 is on the isthmus of Panama, — the slender neck of land that joins the two Americas.

A person on horseback can cross the isthmus in a day, but the ride over the hills is a long and hard one.

There is a railroad across the isthmus.

Begin at the isthmus of Panama and name the countries of South America that border on the Atlantic; on the Pacific. Which countries of this continent have no sea coast?

In Colombia the Andes ranges spread like fingers and become lower towards the north coast.

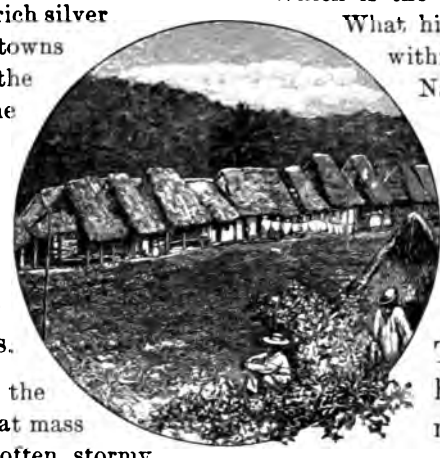
In the Andes of Ecuador stands a group of noted volcanoes. Among them are several small but fertile valleys. The city of Quito is in one of these valleys.

The highland is widest in Bolivia and Peru, near the great bend in the Pacific coast. Here

SOUTH AMERICA
CARIBBEAN SEA
C. Gallinas
Maracaibo
Valencia
La Guaira
TRINIDAD
Cartagena
CARACAS
Orinoco R.
GEORGETOWN
PARAMARIBO
CAYENNE
BOGOTÁ
Mouths of the Amazon R.
EQUATOR
Pará
Amazon R.
Rio Negro
Marañon R.
Madeira R.
Tocantins R.
C. St. Roque
Pernambuco
Rio Francisco R.
Bahia
Callao
LIMA
Cuzco
La Paz
Arequipa
ARICA
SUCRE
Potosi
Iquique
Antofagasta
TROPIC OF CAPRICORN
Paraguay R.
Paraná R.
RIO DE JANEIRO
C. Frio
Santos
ASUNCION
Uruguay R.
Aconcagua
Valparaiso
SANTIAGO
Cordoba
Rosario
URUGUAY
MONTEVIDEO
BUENOS AYRES
La Plata
Plata R.
JUAN FERNANDEZ I.
C. Blanco
Strait of Magellan
TIERRA DEL FUEGO
Cape Horn
FALKLAND ISLANDS (To Gt. Britain)
SOUTH GEORGIA (To Gt. Britain)
SCALE OF MILES
0 100 200 400 600 800
COMPARATIVE AREA
PENN. 45,000 SQ. MILES
THIS RECTANGLE CONTAINS 100,000 SQUARE MILES
Longitude West from Greenwich
Hindustan
Malay Pen.
New Guinea
New Zealand
Senegambia
Liberia
Kongo State
Mozambique
South African Rep.
Cape Colony
Tasmania

the mountain ranges inclose a lofty plateau in which lies lake Titicaca, about two miles and a half above the level of the sea.

Even at this height grain thrives in the fields near the shores of lake Titicaca. The mountains that surround the lake basin have rich silver mines. Steamers ply between the towns on lake Titicaca, and from one of the towns a railroad winds down to the west coast.



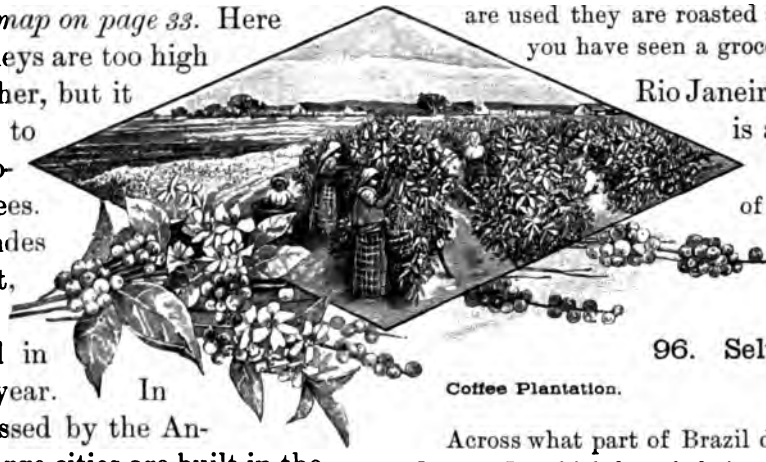
A Panama Village.

From Bolivia the Andes extend southward between Chile and Argentina to cape Horn. Chile has a narrow but fertile plain on which wheat thrives.

Cape Horn is at one end of the world ridge. This cape is on a great mass of rock round which the sea is often stormy. Icebergs, or huge blocks of floating ice, sometimes drift past this cape. In going from ocean to ocean, many ships pass through the strait of Magellan. Find out who Magellan was.

This highland covers one sixth of South America and is 5000 miles long. It has many mines of silver, gold, copper and other metals.

The northern half of the Andes is in or near the hot belt. *See map on page 33.* Here the mountain valleys are too high to have hot weather, but it is warm enough to produce coffee, cocoa and rubber trees. The southern Andes are in the cool belt, and the high peaks are buried in snow all the year. In the countries crossed by the Andes, most of the large cities are built in the uplands, far above the damp and unhealthful coast lands. Among the upland cities are Santiago and Lima. Their ports are Valparaiso and Callao.



Coffee Plantation.

TOPICS: — Cape Horn; Chile; middle Andes; lake Titicaca; northern Andes; products of the Andes countries; cities.

95. Eastern Highlands.

Which is the largest country of South America? What highland and river basin are mostly within this country? Where is Guiana? Name its three parts.[1]

The highlands of Brazil and Guiana are not so rugged nor so high as the Andes. The Brazilian highland extends inland almost to the base of the great western ranges. There are gold mines in all three highlands. Brazil has rich diamond mines. Most of the coffee used in our country is raised on the uplands of Brazil.

The coffee plant needs warm weather and a great deal of rain.

The picture shows the pretty white blossoms and the little berries that look like cherries. When the berries turn dark red and begin to shrivel, they are picked and put into a machine that takes out the seeds. Each berry has two seeds. Before the seeds are used they are roasted and ground. Perhaps you have seen a grocer grinding coffee.

Rio Janeiro (*or Rio de Janeiro*) is a great coffee port.

TOPICS: — Highlands of Brazil and Guiana; mineral products; coffee; Rio Janeiro.

96. Selvas and Amazon River.

Across what part of Brazil does the Amazon river flow? In which heat belt is northern Brazil?

[1] British, French and Dutch Guiana belong to Great Britain, France and Holland in Europe. All the other countries of South America are free and choose their own rulers.

The lowlands through which the Amazon river flows are called *selvas*, or *wooded plains*.

Would you like to sail up the Amazon river? What large trees grow along the banks! Long vines hang from the branches and weave thick nets. The river is very wide, and many little bays indent its banks. Let us enter one of the bays. Tall reeds line the banks and grow far out in the muddy water. Beautiful birds flit about. Noisy parrots scream at us, and monkeys chatter at us as we pass.

Scene on the Amazon.

See the sleepy stork with long neck and long legs. It is standing on a lily leaf that floats on the water. The blossom of this lily is as large as the head of a barrel. It is pink-white, with a golden center. The forest is so large that we might spend many years following the streams that wind through it. We should see wonderful sights, — trees whose sap is made into rubber, cat-like animals with bodies larger than our own and alligators gliding about in the muddy water.

TOPICS: — Selvas; Amazon river; life in the selvas.

97. Pampas and Llanos.

What large country occupies most of the Plata basin? Name two other small countries in this basin.

What country includes the greater part of the Orinoco valley?

The grassy plains of the Plata basin are called *pampas;* those of the Orinoco basin are called *llanos*. Many thousand cattle, sheep and horses graze on these plains. The Plata valley is one of the best grain regions in the world, and produces wheat and corn.

Buenos Ayres is the chief port for the pampas.

The greater part of the Plata valley has deep rich soil. During the rainy months many parts of the plain are covered with tall coarse grass, above which wave white silky plumes.

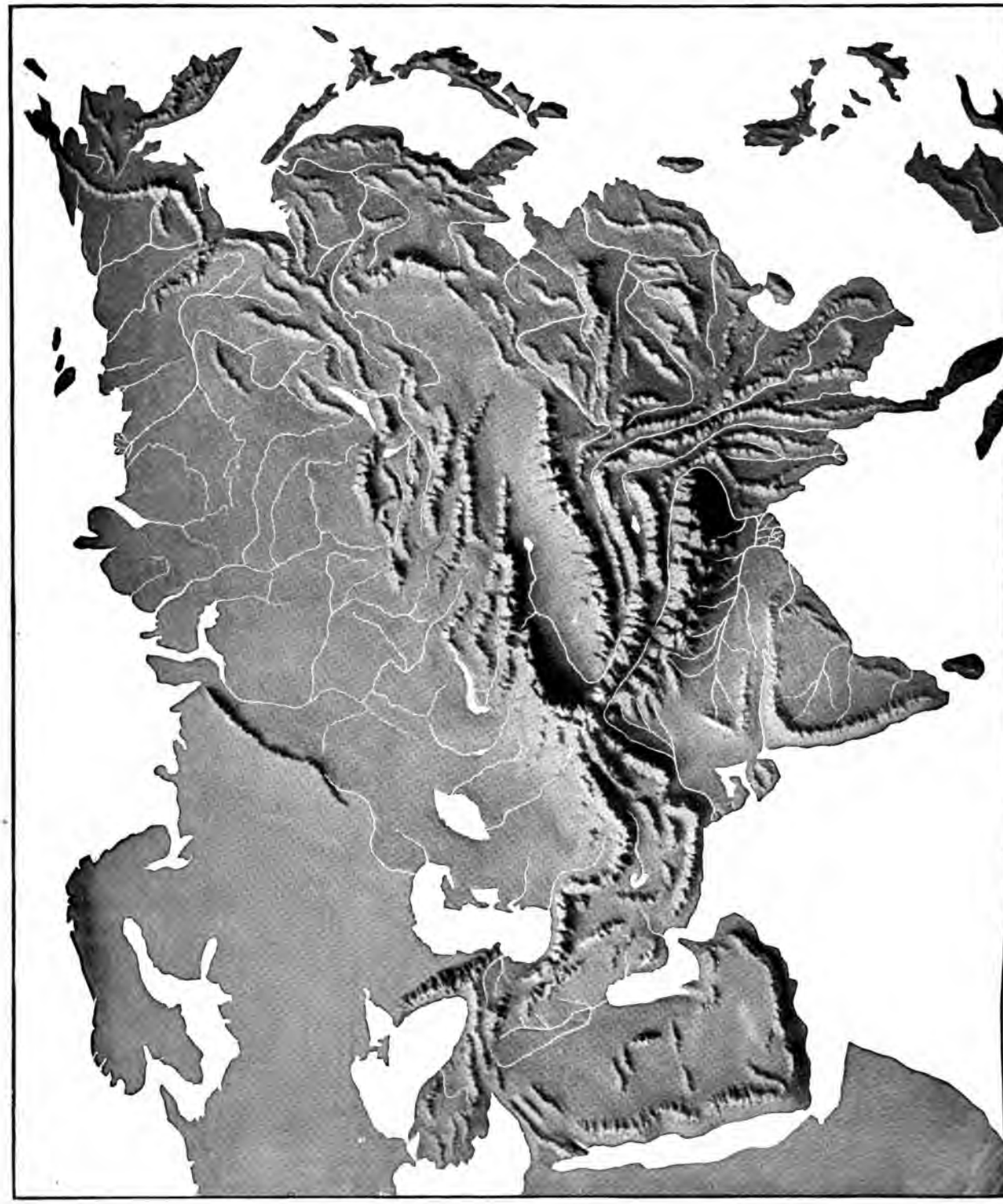
During the rainy months in the Orinoco valley the river overflows its banks far and wide. In the dry months most of the streams dwindle away to mere pools; the grass then withers away and the valley looks like a desert.

The divides between the rivers of the llanos, the selvas and the pampas are in places low and almost level. A person with a canoe can easily travel from the mouth of the Orinoco across the great plain to the mouth of the Plata, but the trip will take a long time.

Pampas Grass.

Branch streams connect the Orinoco with the Amazon; but between the upper parts of the Madeira and the branches leading to the broad Plata mouth, the canoe must be carried about three miles.

TOPICS: — Pampas; llanos; Buenos Ayres.



RELIEF MAP OF ASIA.

ASIA.

98. Surface of Asia.

What oceans lie between North America and Asia? What sea and strait separate Alaska from Asia?

What oceans partly surround Asia? What seas or bays are separated by the peninsula of Kamchatka? Of Korea? Of Indo-China? Of Dekkan? Of Arabia? Which of these peninsulas are in southern Asia?

Locate Ceylon; Borneo; the islands of Japan; Sumatra.

What continents are on the west and southwest of Asia? Name two seas between Europe and Asia; a river and two mountain ranges between the same continents; a sea between Asia and Africa. What gulf is on the east of Arabia?

On which side of Tibet are the Himalaya mountains? What range is on the east of the desert of Gobi? What mountains are northwest of this desert?

Which part of Asia lies nearest the equator? In which heat belts are the three great peninsulas of southern Asia? *See map, page 33.* In which heat belts is the plain of Siberia?

99. People and Countries.

The lofty Himalaya mountains rise between the home of

the yellow people of central and eastern Asia and the white people of southern Asia. The yellow race controls nearly the whole central highland of Asia, and the great slopes east of this highland. *See map on page 53.*

To what race do the people of China belong? *See lesson 63.* Japan? Korea? Anam and Siam?

The native tribes of Siberia also belong to the yellow race, but white men from Russia in Europe now control Siberia and far outnumber the natives. Some tribes of yellow people live on the great plain not far from the Arctic shores and are little above the savage state. The white men have built cities in the warmer southern parts of the plain.

On the mainland of Asia the brown people are found only on the narrow Malay peninsula in the extreme southeast. Java, Sumatra, Borneo and many other islands

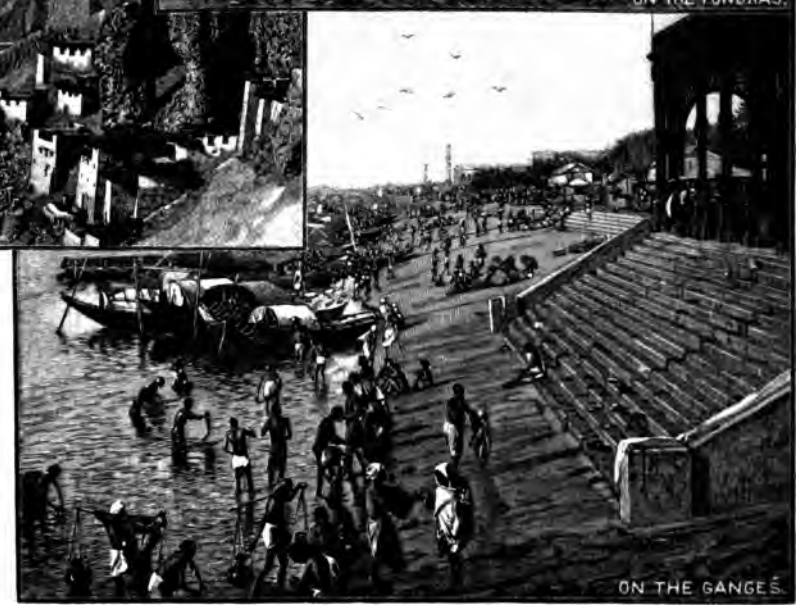
lying far eastward in the Pacific are the true home of the Malay race. Some brown people are found in parts of the large island of Madagascar, east of Africa.

South and west of the central highland of Asia, the countries are the home of people of the white race. Most of the natives of India, Persia, Arabia, Turkey and other smaller countries belong to the same great race of people as the white men of our country, though the people of southern Asia are dark or swarthy. *See lesson 67.*

TOPICS: — Yellow race; Siberia; brown race; white race.

MT. DUNKIA

ON THE TUNDRAS.


ON THE GANGES.

100. Central Highland of Asia.

Asia is the largest of the continents. Its area is about equal to that of all America.

The highland of Tibet is the highest part of the world ridge. Its plateau is nearly three miles above the level of the sea, and some of its peaks are almost as high again.

The giant range of the Himalaya mountains rises at the southern border of Tibet and partly separates the empire of China from India.

The word *Himalaya* means the *abode of snow.* Mt. Everest, in the Himalaya chain, is thought to be the highest peak on the earth.

On the north, east and south vast slopes stretch away from Tibet. They form wide plains along the shores of three oceans. On the north are the plains of Siberia; on the east the plains of China; on the south the plains of India. Towards the west extend highland countries.

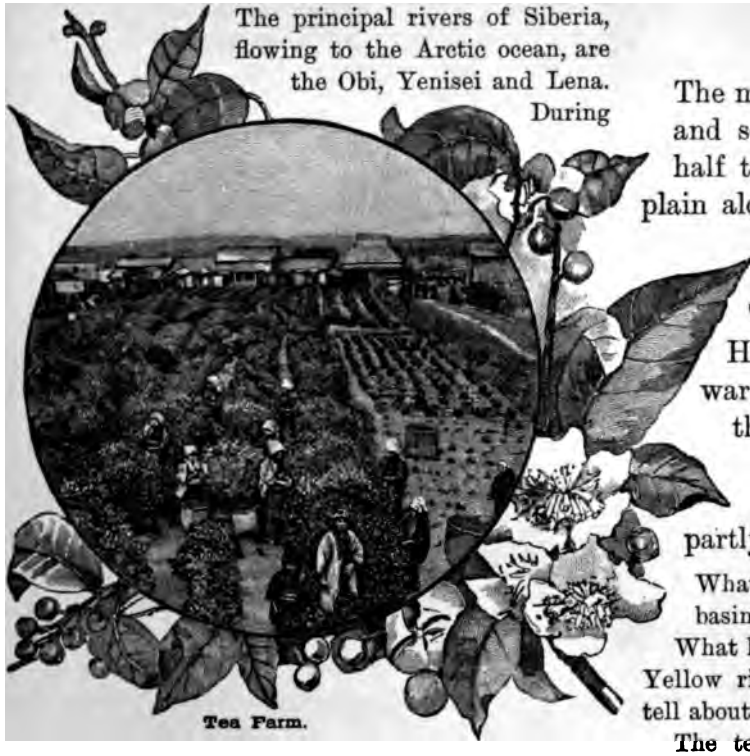
The ranges that surround the plateau of Tibet are so high that little rain can reach the interior.

TOPICS: — Tibet; Himalaya mountains; slopes from Tibet.

ASIA
Longitude West
Longitude East from Greenwich
NORTH AMERICA
Bering Str.
ATLANTIC OCEAN
ARCTIC OCEAN
BERING SEA
ALEUTIAN
Tundras
ARCTIC CIRCLE
KARA SEA
WRANGELL I.
NEW SIBERIA
RUSSIA
EUROPEAN
SIBERIA
EMPIRE
ST. PETERSBURG
Yenisei R.
Lena R.
Yakutsk
OKHOTSK SEA
KAMCHATKA
SAKHALIN
Omsk
Irkutsk
Lake Baikal
Kiakhta
Amur R.
MANCHURIA
KIRGHIZ STEPPES
L. Balkash
Sea of Aral
Urga
MONGOLIA
Desert of Gobi
Kirin
Vladivostok
JAPAN
SEA
JAPAN
EMPIRE OF
TOKYO
Yokohama
SEOUL
Kyoto
Mukden
PEKIN
Tientsin
YELLOW SEA
Hoangho
Yellow R.
Shanghai
CHINA
Yangtze
NANKING
TROPIC OF CANCER
FORMOSA
Canton
Macao
Hongkong
HAINAN
MANILA
PHILIPPINES ISLANDS
Hanoi
HUE
SIAM
BANGKOK
Gulf of Siam
PHUM PENH
SAIGON
COCHIN CHINA
Mandalay
UPPER BURMA
Rangoon
BAY OF BENGAL
Straits of Malacca
Singapore
BORNEO
SUMATRA
CHINA SEA
INDIA
UPPER INDIA
Lassa
Ganges R.
Delhi
Benares
CALCUTTA
HINDUSTAN
Bombay
Madras
CEYLON
Colombo
INDIAN OCEAN
ARABIAN SEA
MASKAT
Mecha
Mekka
RED SEA
ARABIA
Persian Gulf
KHELAT
BALUCHISTAN
AFGHANISTAN
KABUL
Khyber Pass
Bolan Pass
Indus R.
PERSIA
TEHERAN
Tabriz
Damascus
Jerusalem
CAIRO
MEDITERRANEAN SEA
CYPRUS
Smyrna
TURKEY
CONSTANTINOPLE
BLACK SEA
CASPIAN SEA
Volga R.
Ural R.
Sea of Aral
Khiva
BOKHARA
TURKESTAN
Tashkend
EASTERN TURKESTAN
Kashgar
Yarkand
KUEN LUN
TIBET
Lassa
Brahmaputra R.
EQUATOR
SCALE OF MILES
0 200 400 600 800 1000
COMPARATIVE AREA
PENN. 45,000 SQ. MILES
THIS RECTANGLE CONTAINS 100,000 SQUARE MILES
Labrador
France
Algeria
Sahara
Sudan
Upper Guinea
Canada
United States
Mexico
Central America
Colombia
40 50 60 70 80 90 100 110 120 130 140

101. Northern Plains.

The longest slope of Asia reaches from Tibet to the Arctic coast. A large portion of this slope is the vast plain of Siberia.


Tea Farm.

The principal rivers of Siberia, flowing to the Arctic ocean, are the Obi, Yenisei and Lena. During the winter the basins of these rivers are buried in snow and ice.

During the greater part of the year the Arctic coast of Asia is icebound. The frozen mass then reaches from the shore to the pole.

A dense forest covers a large part of the Siberian plain south of the tundras,—the frozen marshy plains along the Arctic coast. In this forest live many animals that are hunted for their thick fur.

Where is the Caspian sea? Can you find on the map any streams flowing from this sea to the ocean?

The great plains round the Caspian sea send no rivers to the ocean. These plains are mostly level and grassy, like the pampas or prairies. The Caspian plains are called *steppes*.

The Caspian sea has no outlet and is therefore salt. The plains near the sea are salty. Several large rivers flow into this inland sea.

TOPICS: — Plain of Siberia; rivers; steppes.

102. Plains of China.

The most important plains of Asia are east and south of Tibet. They support nearly half the people in the world. In the low plain along the eastern coast of China there are four times as many people as in our own country.

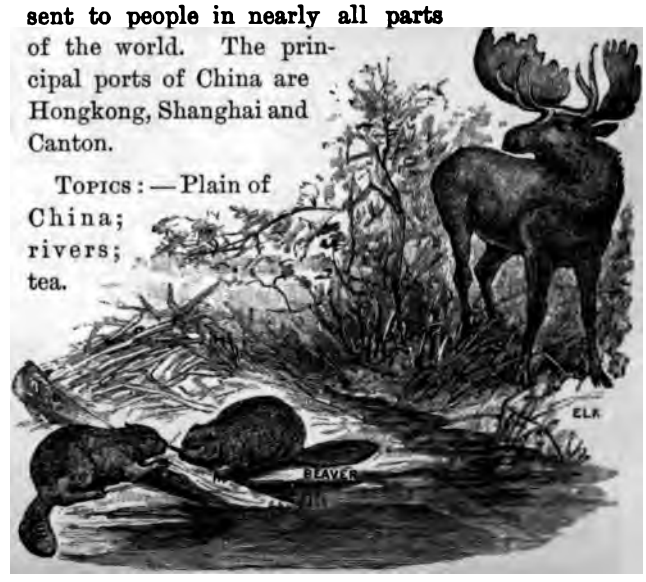
Two large rivers, the Yangtze and Hoangho (or Yellow) rivers, flow eastward from the highland of Tibet across the plains of China. Farther north the Amur river winds eastward to the same coast. In the south the Mekong partly separates Anam and Siam.

What are the seasons in each of these river basins? *See page 33.*

What have you read about the great delta of the Yellow river? *See page 5.* What does lesson 63 tell about the products of Japan and China?

The tea plant thrives on the plains of China. It is raised for its leaves. Several times a year the new leaves are picked and baked. They are then sent to people in nearly all parts of the world. The principal ports of China are Hongkong, Shanghai and Canton.

TOPICS: — Plain of China; rivers; tea.



103. India and the Ganges Basin.

In what two heat belts does India lie? *See page 88.* What are the seasons in these belts?

The great peninsula that contains Anam and Siam is known as *Farther India* or *Indo-China.* Both India and Farther India have heavy rainfall and about the same kinds of products.

The warm slopes of the Ganges basin lie south of Tibet. The plains along the river and the delta at its mouth form one of the most thickly settled parts of the earth. The V-shaped peninsula of *Dekkan* (*see key map on page 87*) is also very fertile.

Part of the Dekkan peninsula is a great lava plain. The surface of the lava has crumbled to fine soil and yields large crops of cotton, grain, poppy and spices. The plateau shown on page 12 is part of this lava plain.

The Ganges river flows from melting snow and ice, far up on the side of the Himalaya mountains. Countless branches rise on the southern slope of the range and flow to join the Ganges.

Near the western end of the Himalayas the Indus river flows through the range and enters the Arabian sea, making a large delta.

In the plains along the Ganges and at its mouth may be seen acres and acres of flat rice fields, with groves of bamboo and cocoanut trees. Large quantities of wheat are raised near the Indus river.

Bombay, on the west coast of India, and Calcutta, in the delta of the Ganges, are the principal ports of India. Only three cities in all America are larger than Bombay and Calcutta.

India belongs to Great Britain and sends most of the exports that are sent to that busy island.

TOPICS: — Ganges basin; Dekkan; Ganges and Indus; cities of India.

104. Southwest Asia.

Southwest Asia consists mainly of plateaus, but as a whole they are only about one fourth as high as Tibet. Three large countries, Persia, Turkey and Arabia, occupy the greater part of this plateau region.

Large portions of Persia are barren. Most of the people live near streams flowing from mountains, or in cities near passes in the mountain ranges. Routes of trade lead through these passes. Wheat is raised in the fertile parts of Persia; dates and figs are the leading fruits. The two small countries of Afghanistan and Baluchistan lie between Persia and India.

A Village near the Ganges.

The Arabian peninsula is mostly a desert region. *See map on page 89.* What are the principal products of Arabia? *See lesson 67.*

What gulf and three great seas border on Asiatic Turkey?

The most fertile lands of Turkey are near the shores of these bodies of water. Figs, olives and grapes thrive there. Many parts of this low plateau country afford good grazing lands for sheep and cattle. Smyrna is the chief seaport of southwest Asia.

Mocha exports much of the coffee that is raised along the Red sea coast.

Jerusalem and Damascus are cities famous in Bible history.

TOPICS: — Persia; Arabia; Turkey; cities.

EUROPE.

105. Surface of Europe.

Name two seas, a river and two mountain ranges between Asia and Europe. What long sea separates Europe from Africa?

What oceans lie between Europe and North America? Which of these continents is the larger? *See guide maps in supplement; also compare globe maps.* Which has the more regular coastline?

Name three great peninsulas in southern Europe. Where is the Scandinavian peninsula? What sea is between this peninsula and the British Isles? What channel and strait are between the British Isles and the mainland? Where is the Baltic sea?

Where is Iceland? Sicily? Where are Corsica and Sardinia?

Name four rivers that rise in the Swiss plateau and flow to four seas. In which part of Europe are the Alps? The Pyrenees? The Apennines?

Which part of Europe consists of a vast plain? Name a large river flowing through this plain to the Caspian sea. Near what hills does this river rise? In which heat belt is the greater part of Europe? *See page 33.* In which heat belt are the southern peninsulas of Europe?

106. People.

Tell what you can about the home life of the people of the central highland of Europe. *See lesson 69.* Describe the home life of the lowland people. *See lesson 68.* In what part of Europe are yellow people found? *See map on page 53; also lesson 64.*

Yellow people are found along the Arctic lands of Europe and in small groups in a few other parts of the continent. The people of *Finland*, the lake region of Russia north of the gulf of Finland, belong to the yellow race. They have fine cities, with buildings as beautiful as those in many of the large cities of America.

Northward from Finland lies the land of the Lapps.

Nearly all the people of Europe, both in the highlands and in the lowlands, belong to the white race. The white settlers in America came from Europe and of course belong in the same great family.

TOPICS: — Finns and Lapps; white people.

107. Slopes from the Swiss Highland.

The greater part of southwest Europe consists of low plateaus and lofty ranges. Switzerland is in the heart of the Alps. These mountains are noted for the grandeur of their scenery. *See lesson 69.*

The Swiss *plateau* is not very high, but the ranges that rise above it are high and rocky.

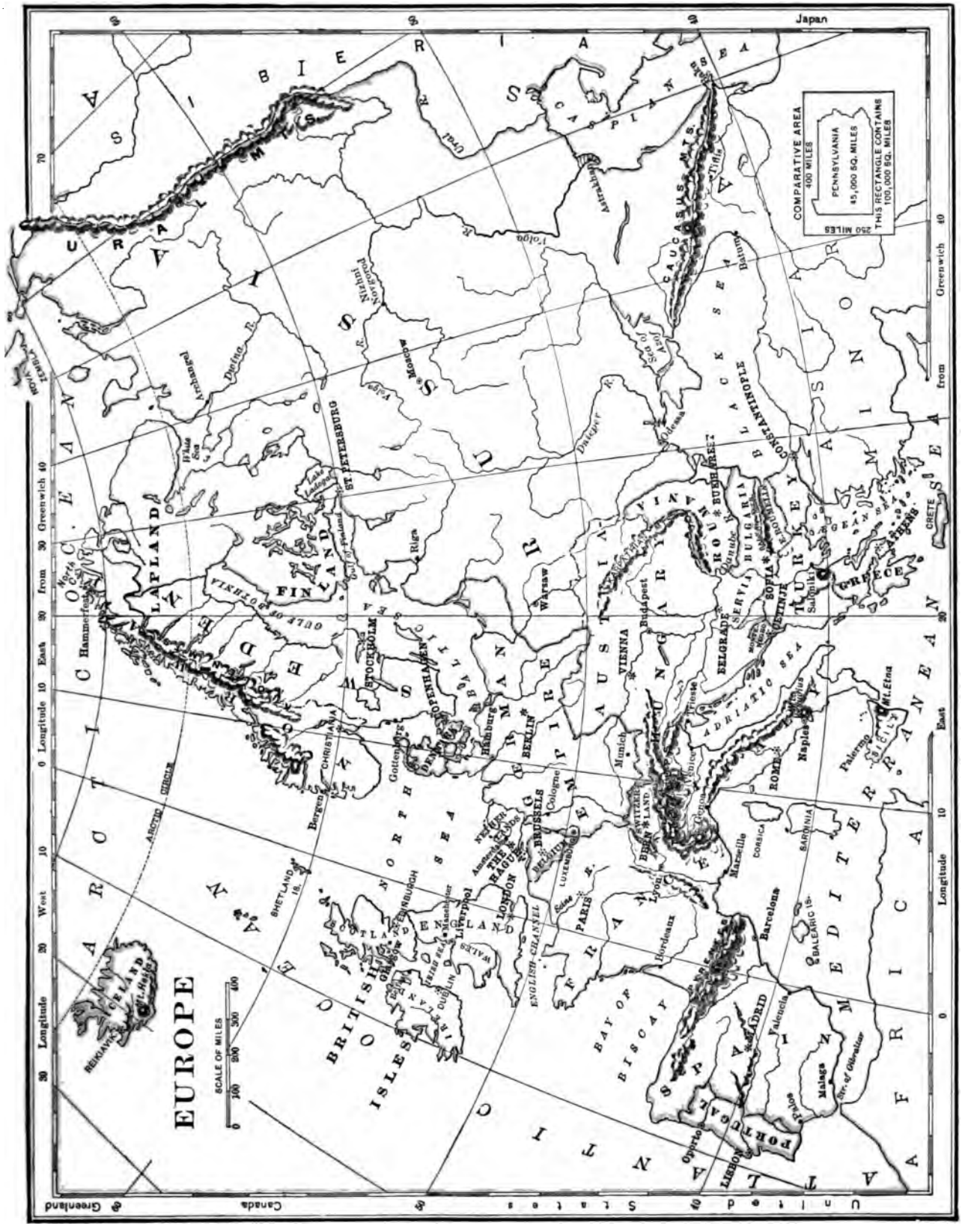
The tops of many of the peaks are buried in snow and ice all the year. Long rivers of ice, or *glaciers*, creep down the mountain sides and melt in the lower valleys. The water forms beautiful streams and lakes.

Mt. Blanc (*see page 13*) is one of the most noted peaks in the Alps. The glaciers shown in the pictures on pages 7 and 14 creep very slowly down from these lofty mountains.

In summer herds of cattle and flocks of goats feed on the high slopes, but as the snow-cap widens on the ranges, the animals are driven to the lower lands.

The slopes that extend from the Swiss highland to the sea are short, and many of the river basins are small. The most important streams are in four systems: the Danube flows eastward across Austria-Hungary and between some smaller countries and forms a delta in the Black sea; the Po runs across the plains of northern Italy and builds its great delta in the Adriatic sea; the Rhine crosses Germany and the Netherlands and makes a delta in the North sea (*see lesson 68*); the Rhone flows swiftly through France southward to the Mediterranean and there forms a delta.

All of these streams receive water from beautiful mountain lakes. The Rhine has cut a deep and long gorge, on the slopes of which are fine vineyards. The valley of the Po is thickly settled, because it is very fertile. Venice, not far from the mouth of the Po, is built on islands. Canals take the place of


EUROPE
SCALE OF MILES
0 100 200 300 400
COMPARATIVE AREA
400 MILES
PENNSYLVANIA
45,000 SQ. MILES
THIS RECTANGLE CONTAINS
100,000 SQ. MILES
250 MILES
Japan
Greenland
Canada
United States
Longitude
West
East
from Greenwich
ARCTIC OCEAN
ATLANTIC OCEAN
MEDITERRANEAN SEA
BLACK SEA
CASPIAN SEA
NORTH SEA
BALTIC SEA
ADRIATIC SEA
BAY OF BISCAY
ENGLISH CHANNEL
GULF OF BOTHNIA
ARCTIC CIRCLE
SIBERIA
URAL MTS.
CAUCASUS MTS.
ASIA MINOR
AFRICA
LAPLAND
FINLAND
SWEDEN
NORWAY
ENGLAND
BRITISH ISLES
SCOTLAND
IRELAND
ICELAND
FRANCE
SPAIN
PORTUGAL
GERMANY
EMPIRE
AUSTRIA
HUNGARY
ROUMANIA
BULGARIA
SERVIA
TURKEY
GREECE
ITALY
SICILY
CRETE
CORSICA
SARDINIA
BALEARIC IS.
Hammerfest
Bergen
Gottenburg
Hamburg
Cologne
Munich
Trieste
Genoa
Marseille
Lyon
Bordeaux
Barcelona
Valencia
Palos
Malaga
Oporto
Lisbon
Madrid
Bern
Vienna
Budapest
Warsaw
Riga
Moscow
Nizhni Novgorod
Astrakhan
Tiflis
Batum
Odessa
Constantinople
Bucharest
Belgrade
Sofia
Salonika
Athens
Naples
Palermo
Mt. Etna
Rome
Liverpool
Manchester
Edinburgh
Glasgow
Dublin
Belfast
Paris
Brussels
Berlin
Hamburg
Stockholm
Copenhagen
Christiania
Lake Ladoga
St. Petersburg
Archangel
White Sea
Dwina R.
Volga R.
Dnieper R.
Sea of Azof
Danube R.
Sarpa R.
Ural R.
Tiflis
Nova Zembla
Mt. Hekla
Reikiavik
Str. of Gibraltar

RELIEF MAP OF AFRICA.

Northern Scotland resembles Norway in its rugged highland, broken coastline and long deep bays. Southern Scotland is largely a plain, with fertile soil at the surface and with rich mines of coal and iron ore beneath.

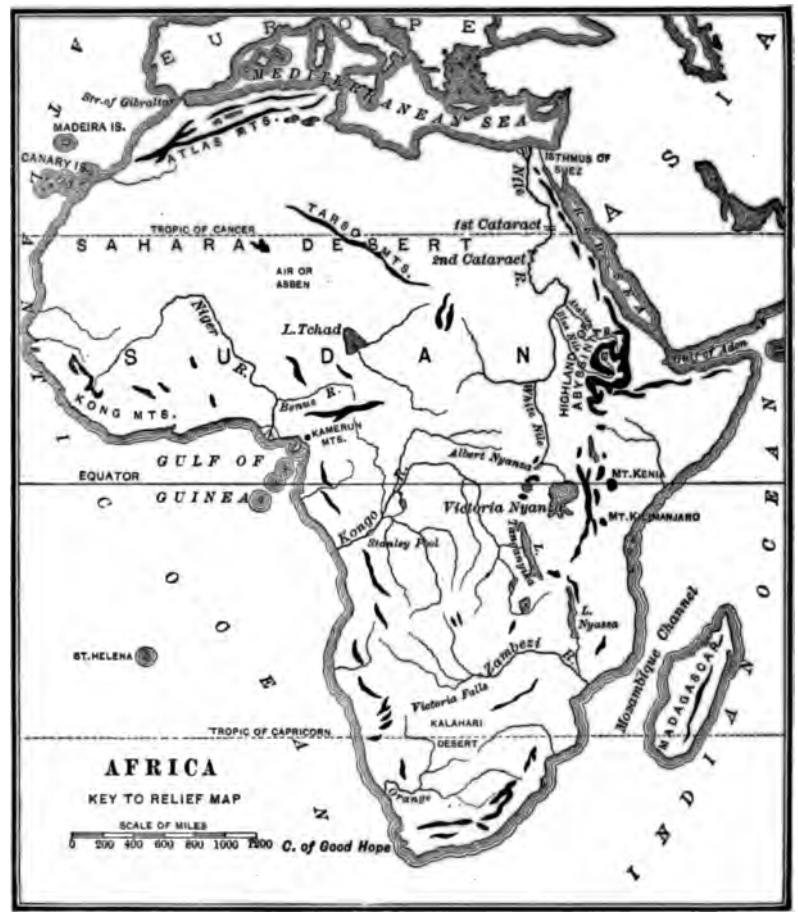
Northwest England and Wales are mountainous, but the regions yield much coal and iron ore. Middle and eastern England are more level and are very fertile.

Southwest Ireland is mountainous and is far-famed for the beauty of its scenery. Middle Ireland is a low plain, used largely for grazing. The flax of this small country is used in making fine linens.

The trade between the people of the British Isles and of the United States is very large. The greater part passes through the port of Liverpool. London is the largest city in the world.

Glasgow is the principal port of Scotland. Dublin is the largest city of Ireland.

TOPICS:—British industries; Great Britain; British empire; Scotland; England; Wales; Ireland; cities.



AFRICA.

III. Surface of Africa.

Which part of the world ridge is in Africa? Name the oceans and seas that almost surround this continent. What continent is north of Africa? Northeast of it?

Which parts of Africa contain the highest mountains? In which part is the desert of Sahara? Where is the Atlas range?

Name a large lake crossed by the equator. What river flows from this lake? Where is the mouth of the Nile? What great African river winds westward near the equator? Where does the Niger rise and where is its mouth?

What large river flows into the sea opposite Madagascar? Where is the Orange river? Which part of Africa is in the northern warm belt? In the hot belt? In the southern warm belt? What great river basin of South America is almost wholly in the same heat belt as the Kongo basin?

Sketch the coastline, the rivers and the mountains of Africa, as shown on the *guide map* in the supplement.

Two Views of the Suez Canal.

Nearly all Africa consists of plateaus. The northern half is not so high as the southern.

Ranges of mountains lie along the greater part of the coast. They are highest in the east and south. The highland of Abyssinia is about as lofty as that of Mexico. Between the Coast ranges and the sea are low narrow plains. Africa has several large river basins.

The desert of Sahara occupies nearly all of northern Africa.

112. People and Countries.

The desert of Sahara separates the lands of the white people from the lands of the Negroes. The home of the white race is north of the desert.

The people of Egypt and the small countries along the Mediterranean sea belong to the dark branch of the white race. Many of them are Arabs. The wandering Arabs of the desert are called *Bedouins*.

The name *Sudan* is given to a broad belt of land south of the desert of Sahara and including several countries. Sudan is the home of the true Negro, but the black or Negro race is found also in all the countries southward to Cape Colony. Many Arabs mingle with the Negroes of Sudan.

In many parts of Sudan the Negroes have large towns for trading and are far above the savage state. Many of the Kongo Negroes are savages of low grade. *See lesson 61.*

The native people of Cape Colony and Transvaal are *Kaffirs*, — people of the black race; but white settlers rule over these lands and control the products.

TOPICS: — White race; Arabs; Negroes; Kaffirs.

113. Suez Canal.

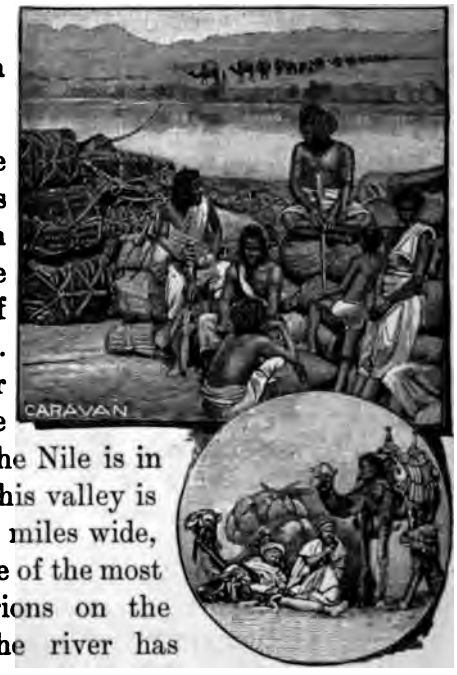
What isthmus joins Asia and Africa?

A great ship canal has been dug across the isthmus of Suez. Thousands of steamers pass through it every year.

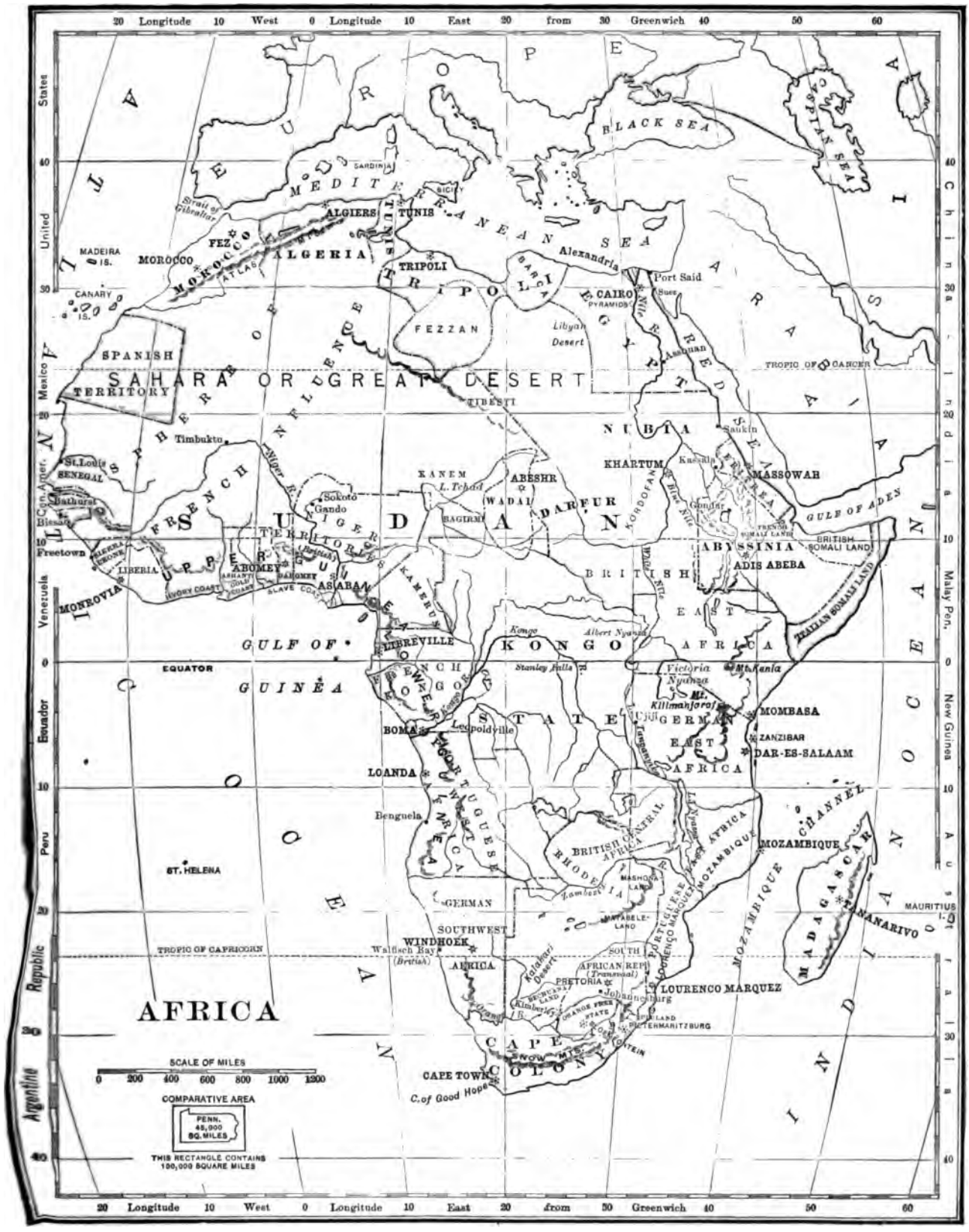
Before the Suez canal was made, the water route from Europe to southeast Asia led round the southern end of Africa. This canal cuts off about one half the distance.

What seas are joined by the Suez canal?

114. Northern Africa.



The Nile flows across the eastern part of the desert of the Sahara. The lower part of the valley of the Nile is in Egypt. This valley is only a few miles wide, but it is one of the most fertile regions on the earth. The river has


AFRICA
SCALE OF MILES
0 200 400 600 800 1000 1200
COMPARATIVE AREA
PENN. 45,000 SQ. MILES
THIS RECTANGLE CONTAINS 100,000 SQUARE MILES
SAHARA OR GREAT DESERT
SUDAN
GULF OF GUINEA
EQUATOR
TROPIC OF CAPRICORN
TROPIC OF CANCER
MEDITERRANEAN SEA
BLACK SEA
CASPIAN SEA
RED SEA
GULF OF ADEN
MOZAMBIQUE CHANNEL
MADAGASCAR
MAURITIUS I.
ST. HELENA
MADEIRA IS.
CANARY IS.
MOROCCO
FEZ
ALGIERS
TUNIS
TRIPOLI
FEZZAN
CAIRO
Alexandria
Port Said
Suez
Libyan Desert
Assuan
TIBESTI
NUBIA
KHARTUM
Kassala
Saukin
MASSOWAH
ABYSSINIA
ADIS ABEBA
BRITISH SOMALI LAND
ITALIAN SOMALI LAND
Timbuktu
St. Louis
SENEGAL
Bathurst
Bissau
Freetown
LIBERIA
MONROVIA
ABOMEY
ASABA
Sokoto
Gando
KANEM
L. Tchad
ABESHR
WADAI
DARFUR
BAGIRMI
KORDOFAN
Gondar
BRITISH EAST AFRICA
LIBREVILLE
KONGO
Kongo
Albert Nyanza
Stanley Falls
Victoria Nyanza
Mt. Kenia
Mt. Kilimanjaro
MOMBASA
ZANZIBAR
DAR-ES-SALAAM
GERMAN EAST AFRICA
BOMA
Leopoldville
LOANDA
Benguela
BRITISH CENTRAL AFRICA
RHODESIA
MASHONA LAND
MATABELE LAND
MOZAMBIQUE
GERMAN SOUTHWEST AFRICA
WINDHOEK
Walfisch Bay (British)
SOUTH AFRICAN REP. (Transvaal)
PRETORIA
Johannesburg
LOURENCO MARQUEZ
PIETERMARITZBURG
CAPE COLONY
CAPE TOWN
C. of Good Hope
Kalahari Desert
Kimberley
Orange R.
Zambezi
Tanganyika
Ujiji
Longitude 10 West 0 Longitude 10 East 20 from 30 Greenwich 40 50 60
United States
Mexico
Con. Amer.
Venezuela
Ecuador
Peru
Argentine Republic
China
India
Malay Pen.
New Guinea
Australia

built a great delta at its mouth. This delta is very thickly settled.

Every summer the Nile overflows its banks. The water comes from great lakes near the middle of Africa, and from rainfall on the mountains of Abyssinia. At this time hundreds of muddy streams flow down the steep slopes and swell the branches of the Nile.

Day after day the river creeps farther over its banks. It covers the fields, and looks like a vast lake. At length the river grows smaller. Weeks pass, and now it flows again in its narrow bed.

The water leaves a thin coating of soil on the banks. The land is ready for seeds, and the long valley will soon be covered with grain. There will be food for the next dry season.

Cairo, the largest city of Africa, is near the upper end of the Nile delta. Alexandria is a seaport in the delta.

Tripoli is a dry and almost barren country west of Egypt. Still farther west the Atlas mountains extend through three countries, — Tunis, Algeria and Morocco. These mountains rise north of the Sahara desert, not far from the shore of the Mediterranean sea.

The northern slope of this range receives some rainfall, and small streams flow from the range to the sea. There are good grazing lands on the higher slopes.

TOPICS: — Nile valley; Mediterranean countries.

115. Life in the Desert of Sahara.

Some parts of the desert of Sahara are covered with drifting sand; other parts consist of wind-swept rocky plateaus. During the winter, snow falls on mountains in the desert, but nearly the entire region is dry and barren.

A fertile place in a desert is called an *oasis*.

In some parts of the great desert there are springs of fresh water. After days of hot and dusty travel, how glad the thirsty people and camels are to reach a spring. Villages grow up near these springs. Date trees are planted, and soon bear clusters of sweet fruit.

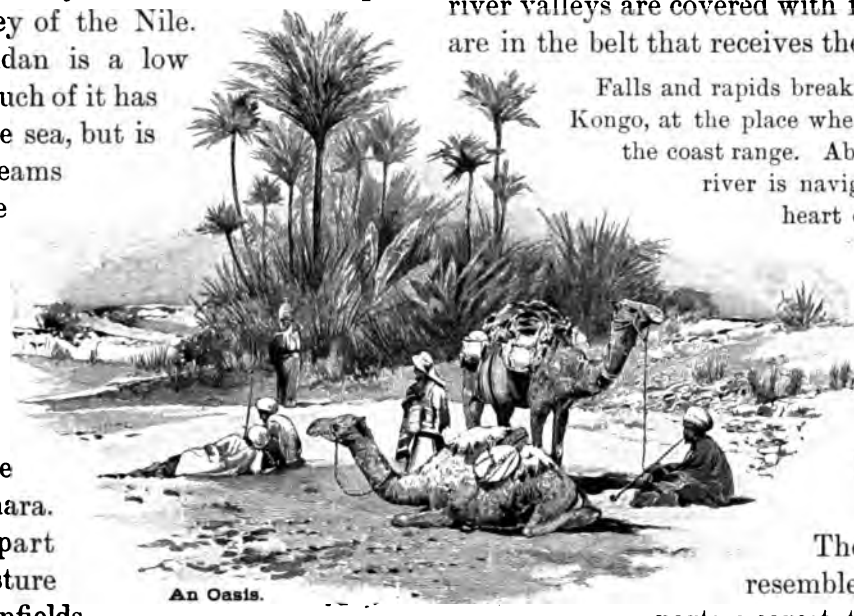
Dates are the chief food of many people who live in hot deserts.

TOPICS: — Desert of Sahara; oasis; dates.

116. Sudan and the Kongo Basin.

Sudan reaches from the Atlantic coast to the highland of Abyssinia. The eastern part is in the valley of the Nile. Nearly all Sudan is a low plateau, and much of it has no outlet to the sea, but is drained by streams flowing to lake Tchad.

The southern part of Sudan is well watered; the northern part merges into the desert of Sahara. The fertile part has forests, pasture lands and grainfields.



An Oasis.

Lake Tchad is brackish but not very salt, for in times of heavy rains it overflows through a channel leading towards the desert.

The Negroes in the towns near lake Tchad carry on trade and have some manufactures.

The Niger has built one of the largest deltas in the world. The basin of this river is about three fourths as large as that of the Mississippi.

Low and High Nile.

Nearly all parts of Sudan are thickly settled.

South of Sudan lies the Kongo basin, mostly in the plateau of central Africa. No river basin on the earth, except the Amazon, is larger than the Kongo. Both of these great river valleys are covered with forests, for they are in the belt that receives the heaviest rains.

Falls and rapids break the course of the Kongo, at the place where it cuts through the coast range. Above the rapids the river is navigable far into the heart of Africa.

TOPICS: — Sudan; lake Tchad; Niger; Kongo basin and Amazon; Kongo river.

117. Southern Africa.

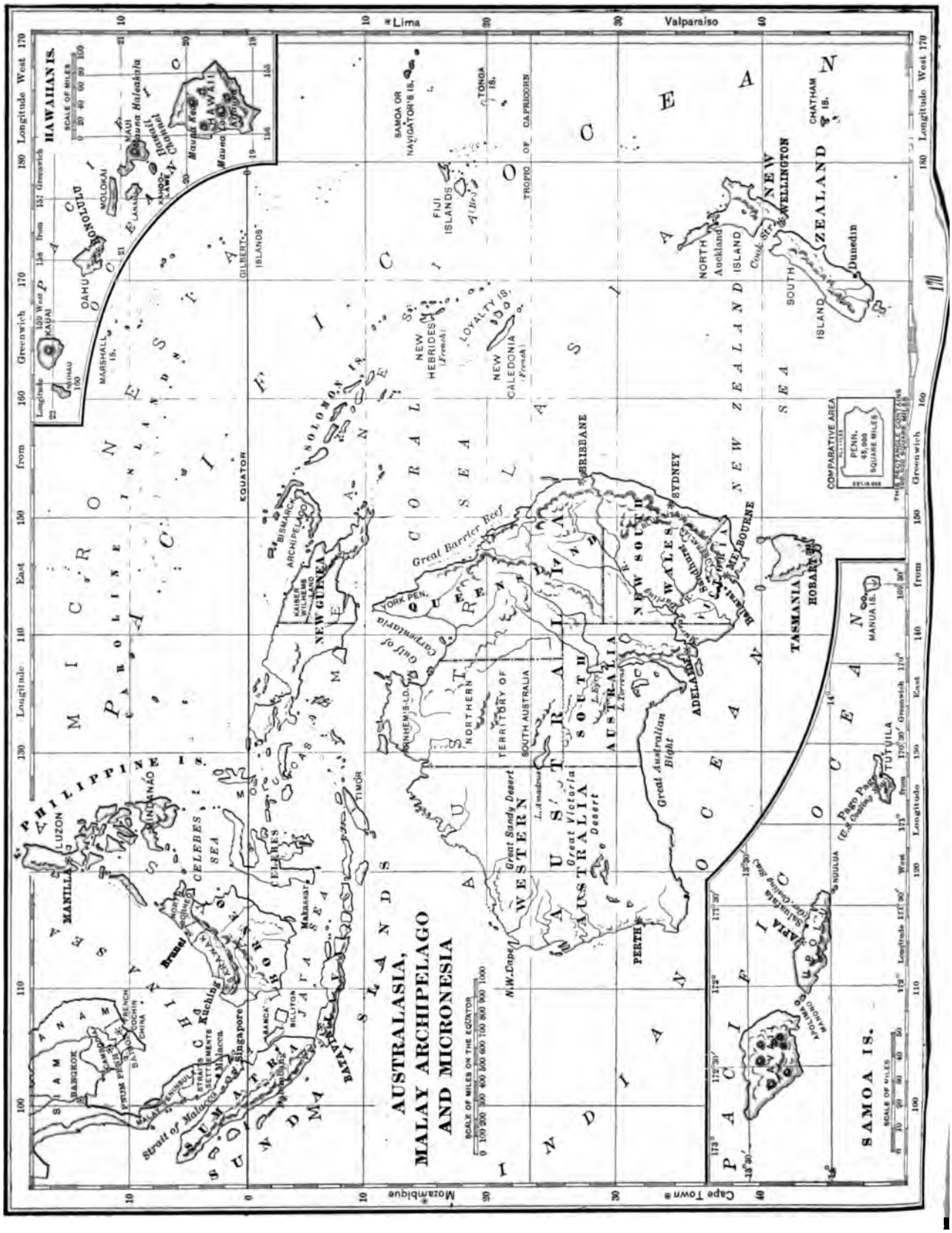
The Zambezi basin resembles Sudan. Their parts nearest the equator are fertile, but away from the equator they change into deserts. The Zambezi basin is nearly as large as the Niger.

The Kalahari desert lies between the basins of the Zambezi and the Orange rivers. The latter basin has little fertile land. The river is too shallow for large boats.

Cape Colony occupies a large part of southern Africa. It is mostly a plateau country and contains the lofty Snow mountains. The seaward slopes of Cape Colony receive heavy rainfall and are very fertile. The higher slopes afford excellent pasturage. Wheat thrives in the lower lands. The most valuable product comes from the small diamond fields.

Cape Town is the principal city of southern Africa.

TOPICS: — Zambezi; Kalahari; Cape Colony.

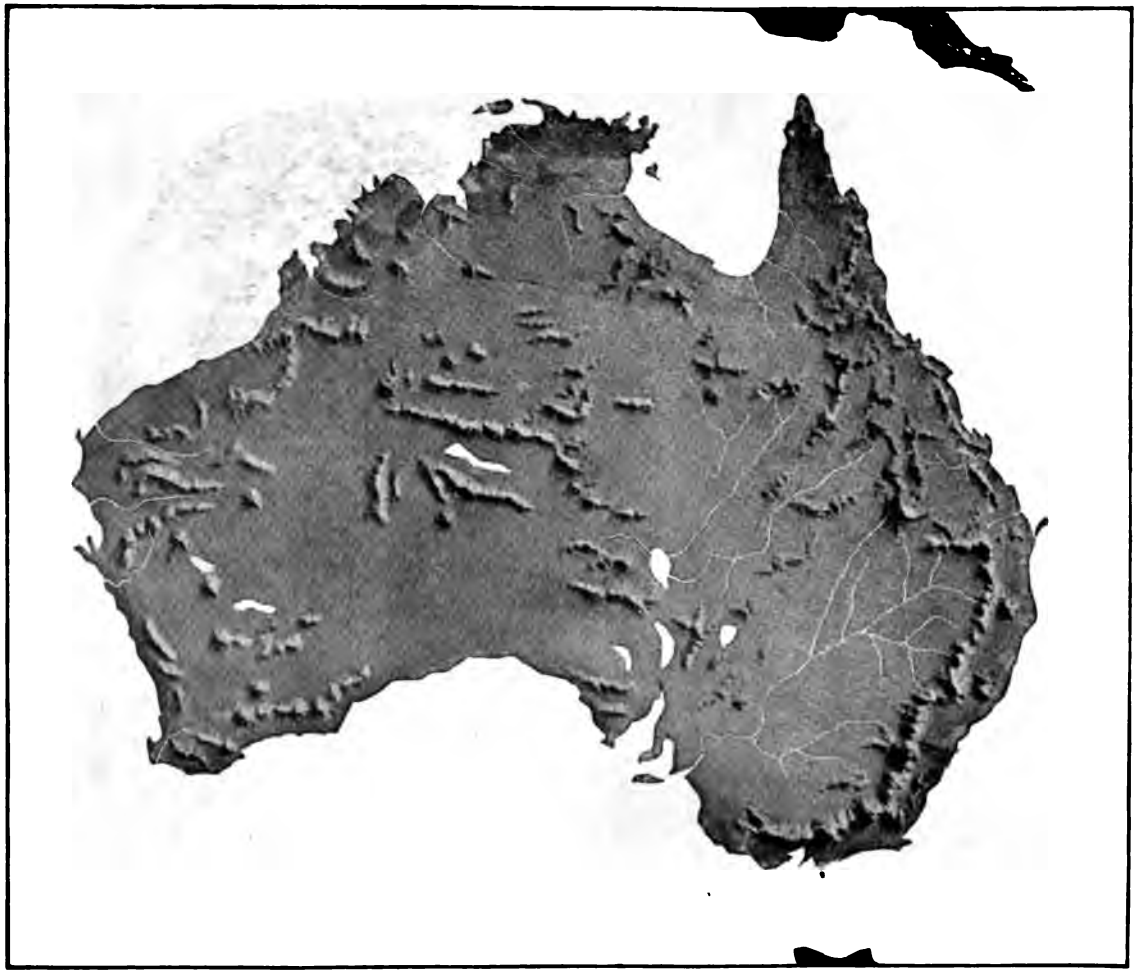

AUSTRALASIA,
MALAY ARCHIPELAGO
AND MICRONESIA
SCALE OF MILES ON THE EQUATOR
HAWAIIAN IS.
SCALE OF MILES
PACIFIC OCEAN
MICRONESIA
CAROLINE ISLANDS
PHILIPPINE IS.
CHINA SEA
CELEBES SEA
SUMATRA
JAVA SEA
SUNDA ISLANDS
INDIAN OCEAN
CORAL SEA
NEW ZEALAND SEA
NEW GUINEA
SOLOMON IS.
NEW HEBRIDES (French)
NEW CALEDONIA (French)
LOYALTY IS.
FIJI ISLANDS
TONGA IS.
SAMOA OR NAVIGATOR'S IS.
TROPIC OF CAPRICORN
EQUATOR
GILBERT ISLANDS
MARSHALL IS.
OAHU
KAUAI
MOLOKAI
MAUI
HONOLULU
Mauna Kea
Mauna Loa
Hawaii Channel
Mauna Haleakala
Lima
Valparaiso
Mozambique
Cape Town
Longitude West
Longitude East
Greenwich
from
Great Barrier Reef
Gulf of Carpentaria
YORK PEN.
QUEENSLAND
NORTHERN TERRITORY OF SOUTH AUSTRALIA
WESTERN AUSTRALIA
SOUTH AUSTRALIA
NEW SOUTH WALES
BRISBANE
SYDNEY
MELBOURNE
ADELAIDE
TASMANIA
HOBART
Great Australian Bight
Great Sandy Desert
Great Victoria Desert
PERTH
N.W. Cape
TIMOR
MANILLA
LUZON
MINDANAO
Brunei
Kuching
Singapore
Malacca
Makassar
BATAVIA
BANGKOK
SIAM
ANAM
PNUM PENH
FRENCH COCHIN CHINA
Strait of Malacca
SAMOA IS.
SCALE OF MILES
APIA
UPOLU
NUULUA
TUTUILA
Pago Pago
MANUA IS.
NEW ZEALAND
NORTH ISLAND
SOUTH ISLAND
Auckland
Cook Str.
NEW WELLINGTON
Dunedin
CHATHAM IS.
COMPARATIVE AREA
PENN.
45,000
SQUARE MILES
THIS RECTANGLE CONTAINS
100,000 SQUARE MILES

AUSTRALASIA.

118. Australasia.

In what direction is Australia from Asia? From Africa? From South America? What oceans wash the shores of Australia?

Name a large island lying between Australia and the equator.



RELIEF MAP OF AUSTRALIA.

Name three large islands crossed by the equator; four that border on the Java sea. Where is New Zealand? Tasmania?

Locate the Samoa islands.

NOTE:—These islands are shown in two places on the map. The *inset* or corner map is merely a means of showing these islands on a larger scale.

The other inset map on the same page shows the Hawaiian islands. These are small islands, like those of the Samoa group, and lie north of the equator and much farther out in the Pacific. Name the largest island of this group. On which island is the city of Honolulu?

In which part of Australia are the mountains highest? The various divisions of Australia are called colonies; in which colony are the Blue mountains? In which colonies are the Australian Alps? Where is Queensland? What colony controls a north-and-south belt across middle Australia? Which colony has the greatest area?

In which heat belt is the greater part of Australia? What are the seasons of this belt? Name some of the products.

Sketch the map of Australia; insert rivers and ranges, as shown in the *guide map* in the supplement.

119. People of Australasia.

Many years ago, when white men first went to Australia, they found the land settled by black people. These natives were savages of a low grade.

The white people took the best lands and drove the natives into the interior of Australia, where several thousand of their descendants still live.

Most of the white settlers were from England.

Eucalyptus. Black Natives of Australia. Woman of Samoa. Natives of Solomon Islands.

and the great island or continent of Australia is now divided into several British colonies. The most prosperous cities are in the southeast. There are not quite so many people in Australia as in the city of New York.

The natives of New Guinea belong to the black race, but white people from Europe have settled in some of the small trading towns along the coast. The islands of New Zealand once belonged to the brown people, but were seized by white men. Many of the brown people still live in the north island of the group. Most of the Pacific islands are peopled by the Malay race, but a few savage black people are found in some of them.

120. Products of the Colonies.

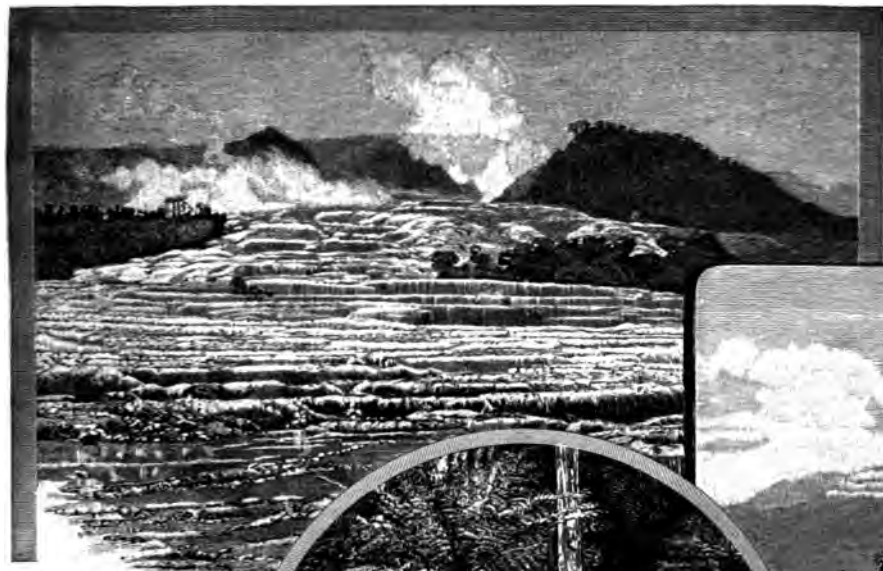
Australia is the smallest of the continents. Its area is equal to about one third that of North America. Ranges of mountains rise along the coast, except in the south. The main range lies along the Pacific coast, and is highest near its southern end. The other ranges are low and broken. Most of them are scarcely higher than hills.

In many places the inland plains are dry and sandy. The most fertile parts of the plain are in the basin of the Murray river. This basin is about one half as large as the Mississippi.

The mountains of southeast Australia yield much gold. Both the eastern and the western parts of the great island support large flocks of sheep and herds of cattle. Wheat and corn are raised in the valley of the Darling and Murray rivers.

Victoria and New South Wales are the leading colonies of Australia.

The gold mines of Victoria take rank with those of the United States and southern Africa. The sheep ranches of this colony produce wool worth three times as much as the gold taken from its mines.



Hot Springs, New Zealand.

The region raises many cattle and a large amount of wheat. The principal exports are wool, gold, wheat and cattle.

The leading imports are iron goods, cloth, sugar and tea. A great deal of wool from other colonies finds a market here. Most of it is sold again abroad. Nearly all the foreign trade of Australia is carried on with England.

Melbourne is the chief port of Australia. It is on a fine harbor and is about as large as Boston. New South Wales produces much more wool but less gold than Victoria. A large amount of corn is raised in New South Wales. Oranges and sugar cane also thrive here.

The trade of these two colonies is nearly alike in kind. Sydney is the leading port of New South Wales. Queensland has good grazing lands. Western and South Australia are dry and thinly settled.

TOPICS:—Mountains of Australia; plains; Murray basin; products of Australia; Victoria; New South Wales; other colonies; cities.

Tree Ferns.

Blue Mountains, Australia.

121. Pacific Islands.

The islands of New Zealand belong to the British. They have rich gold mines and afford grazing for many cattle and sheep. Gold, wool and meats are the chief exports.

Auckland is the largest city.

The great island of New Guinea is much larger than Texas, but it has fewer people than Philadelphia. There are fertile lands in the island, but its black people are savages, and do not make much use of the rich soil.

Honolulu, Hawaiian islands.

There are many low coral islands in the Pacific. Some are long *reefs*, others rings or *atolls*.

The savages of the coral islands live chiefly on breadfruit and fish.

Other islands are high and are made by volcanoes. Coral reefs often surround the volcanic islands. *See lessons 49 and 50, page 30.*

Animals of Australia.

Among the volcanic islands are most of the Fiji, Samoa and Hawaiian islands. Nearly all of the natives on the small islands of the Pacific belong to the brown race.

The Hawaiian islands are about 2000 miles southwest of San Francisco. Many of the volcanoes that made the islands are still active. One of these, called *Kilauea*, is the largest active crater in the world.

The Hawaiian islands belong to the United States.

Many people of the white and the yellow races have settled on these islands with the brown natives. They raise large quantities of sugar cane and rice.

Honolulu is the chief city, and is reached by steamships from San Francisco.

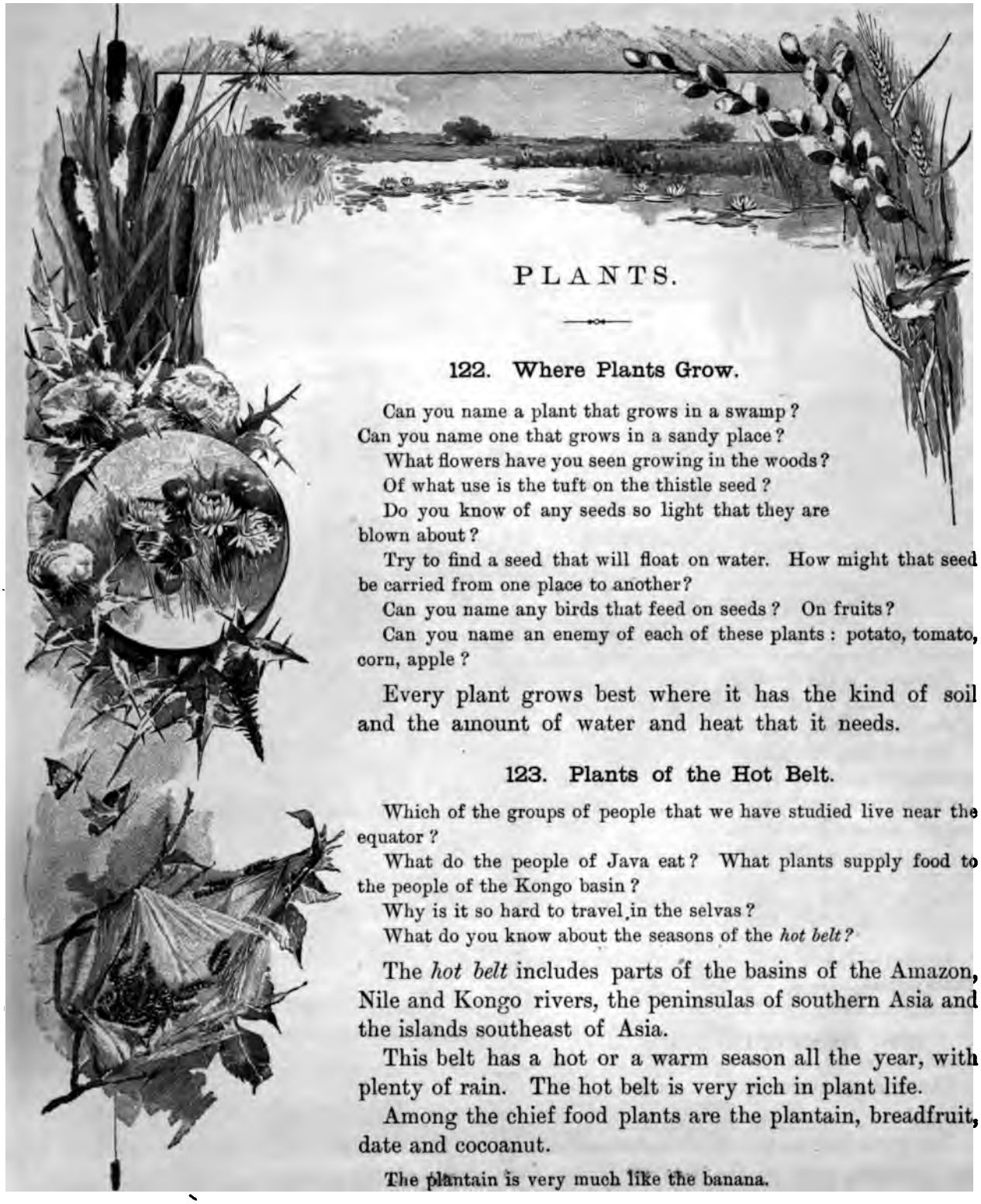
The Fiji group has about 300 small islands. Most of these rose as volcanoes from the bed of the ocean. The Fijians are savages. A few white men have settled on some of the islands.

The Tonga islands are southeast of the Fiji group. White people have taught many of the Tonga natives how to read and they have given up most of their savage customs.

Northeast of the Fiji group lie the Samoa islands. Apia is the chief town. The Samoans are very skillful in the use of canoes.

The small islands of the Caroline, Marshall and Gilbert groups are mostly coral.

TOPICS:—New Zealand; New Guinea; coral and volcanic islands; Hawaiian islands.



PLANTS.

122. Where Plants Grow.

Can you name a plant that grows in a swamp? Can you name one that grows in a sandy place?

What flowers have you seen growing in the woods?

Of what use is the tuft on the thistle seed?

Do you know of any seeds so light that they are blown about?

Try to find a seed that will float on water. How might that seed be carried from one place to another?

Can you name any birds that feed on seeds? On fruits?

Can you name an enemy of each of these plants: potato, tomato, corn, apple?

Every plant grows best where it has the kind of soil and the amount of water and heat that it needs.

123. Plants of the Hot Belt.

Which of the groups of people that we have studied live near the equator?

What do the people of Java eat? What plants supply food to the people of the Kongo basin?

Why is it so hard to travel in the selvas?

What do you know about the seasons of the *hot belt?*

The *hot belt* includes parts of the basins of the Amazon, Nile and Kongo rivers, the peninsulas of southern Asia and the islands southeast of Asia.

This belt has a hot or a warm season all the year, with plenty of rain. The hot belt is very rich in plant life.

Among the chief food plants are the plantain, breadfruit, date and cocoanut.

The plantain is very much like the banana.

The banana often grows to the height of twenty feet, with leaves ten feet in length. The fruit hangs in large clusters.

In hot lands the banana is widely used as food. On many islands of the Pacific it is the chief food of the natives.

Banana Plant.

Breadfruit grows on a tree that has large glossy leaves. The fruit is about as large as a melon. It is picked just before it is ripe, and is often cooked by baking.

The islands southeast of Asia are very rich in spices. Among the best known of these are pepper, cloves, nutmegs, and cinnamon.

Cloves grow on trees. The buds are picked when they turn red. They are then dried and sent to market. Cloves have a hot, biting taste.

Cinnamon is the dried bark of a kind of small tree. The outer bark is taken off, and only the inner bark is dried for market. Do you like this fragrant spice?

Nutmegs are taken from a little fruit that grows on a large tree. The seed of this fruit is taken out and dried for several weeks. It is then cracked open and out comes a hard kernel.

This kernel is the nutmeg which is often grated into puddings and pies.

Pepper berries grow in long clusters on climbing shrubs or vines. The berries are dried in the sun.

Topics: — Lands of hot belts; seasons; food plants; spices.

124. Plants of the Warm Belts.

There is a *warm belt* on each side of the *hot belt*.

The warm belt on the north includes Mexico, the southern part of the United States, the shores of the Mediterranean sea, t the Ganges and the southern h plains of China.

The warm belt on the south i Plata basin, the part of Africa tha of the Kongo basin and nearly all o

The seasons of the warm belt hot summers and short, cool wi plants of these belts are very muc of the hot belt.

Among the fruits of the war oranges, lemons, figs and grapes. clothing plant is cotton. Rice is a product.

Spices.

The warm slopes of southeast A a large amount of tea.

Topics: — Lands of warm belts; sea

125. Plants of the Cool B

There is but little land in th south of the equator.

The *cool belt* on the north is a wide path across the middle of North America, Europe and Asia.

In the cool belt of the north the hot and cold seasons are about equal in length. The chief products are grains, — wheat, corn, rye, oats and barley. The best grazing lands are in the cool belt of the north. Here are also the largest forests of soft woods, — pine, fir, spruce, etc., as well as forests of hard wood.

TOPICS: — Lands of cool belts; seasons; plants.

126. Plants of the Cold Belts.

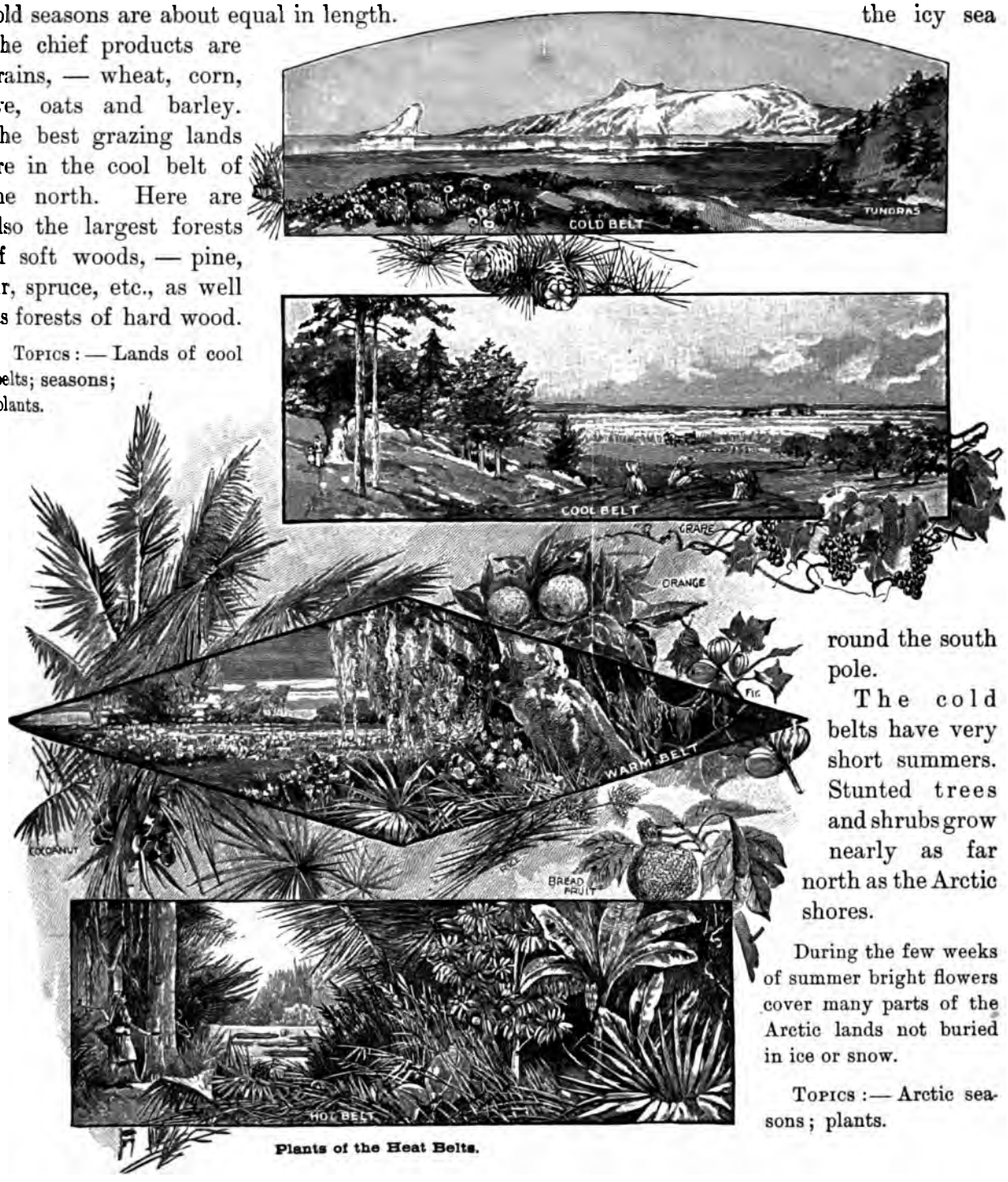
A cold belt reaches from the bleak slopes near the Arctic shore to the north pole.

Very little is known about the islands in the icy sea round the south pole.

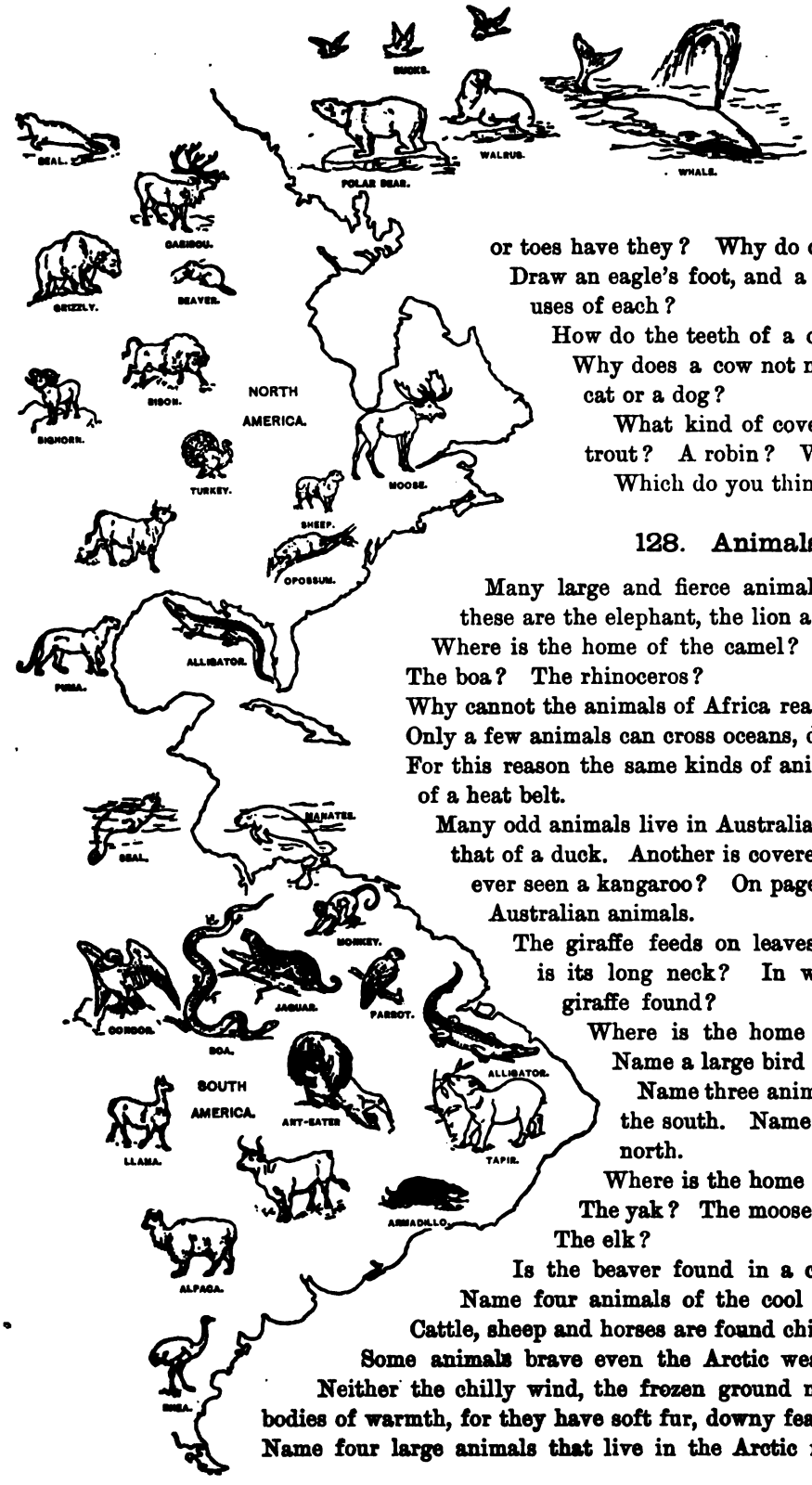
The cold belts have very short summers. Stunted trees and shrubs grow nearly as far north as the Arctic shores.

During the few weeks of summer bright flowers cover many parts of the Arctic lands not buried in ice or snow.

TOPICS: — Arctic seasons; plants.



Plants of the Heat Belts.



ANIMALS.

127. Structure of Animals.

Name two animals that feed on grass. What kinds of feet or toes have they? Why do cattle need wide hoofs?

Draw an eagle's foot, and a duck's foot. Can you tell the uses of each?

How do the teeth of a cow differ from those of a cat? Why does a cow not need sharp teeth like those of a cat or a dog?

What kind of covering has a sheep? A frog? A trout? A robin? Where does each live?

Which do you think are warmer, feathers or furs?

128. Animals of the Heat Belts.

Many large and fierce animals live in the hot belt. Among these are the elephant, the lion and the gorilla.

Where is the home of the camel? Of the tapir? The crocodile? The boa? The rhinoceros?

Why cannot the animals of Africa reach Australia or South America? Only a few animals can cross oceans, deserts or lofty highlands. For this reason the same kinds of animals do not roam over all parts of a heat belt.

Many odd animals live in Australia. There is one with a bill like that of a duck. Another is covered with sharp spines. Have you ever seen a kangaroo? On page 108 there are pictures of some Australian animals.

The giraffe feeds on leaves and branches. Of what use is its long neck? In which of the continents is the giraffe found?

Where is the home of the llama and the alpaca? Name a large bird that lives among the Andes.

Name three animals that live in the warm belt of the south. Name three in the warm belt of the north.

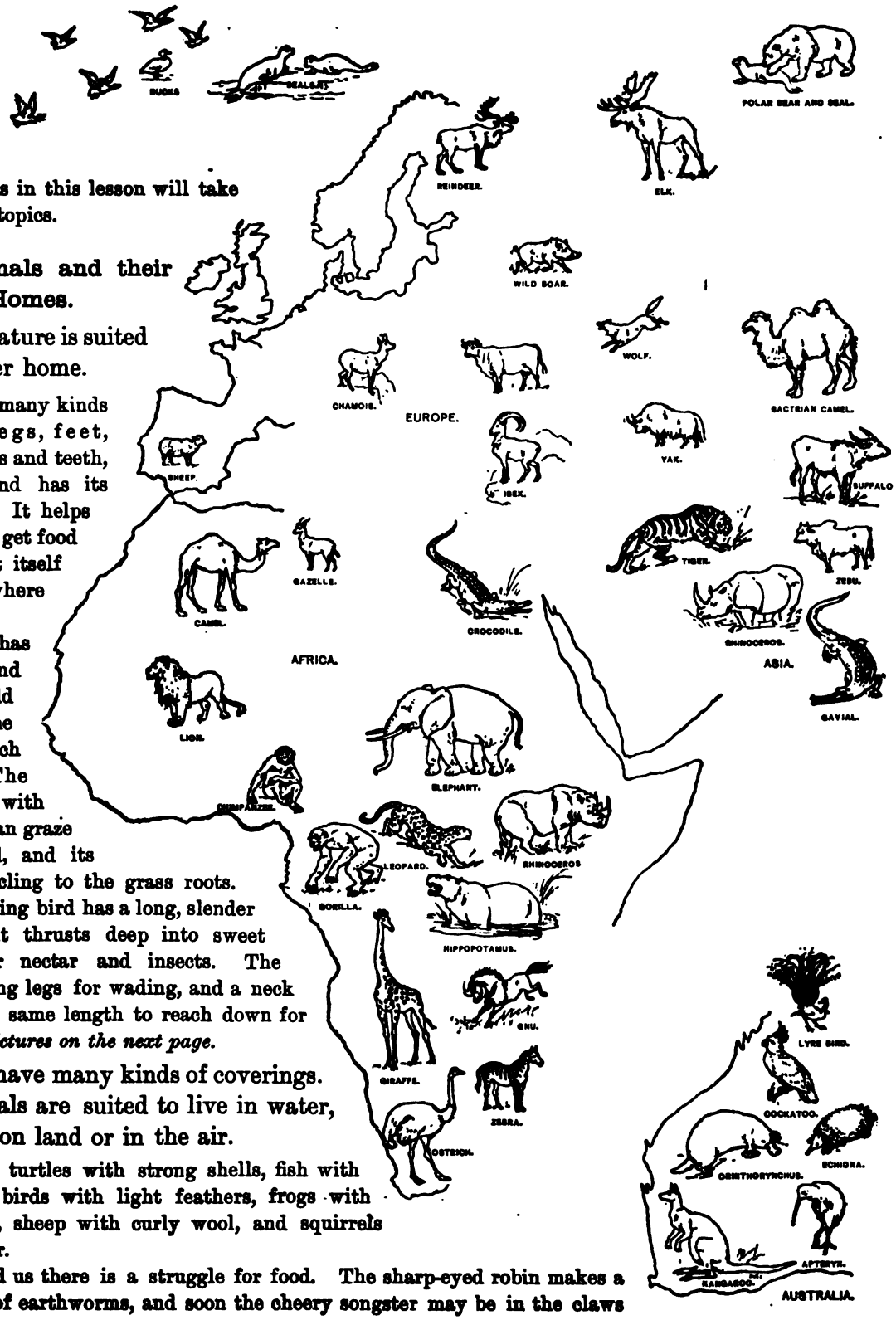
Where is the home of the bison? Of the buffalo? The yak? The moose? The grizzly? The chamois? The elk?

Is the beaver found in a cold land or in a warm one? Name four animals of the cool belt of the north.

Cattle, sheep and horses are found chiefly in the cool and warm belts.

Some animals brave even the Arctic weather in their search for food. Neither the chilly wind, the frozen ground nor the icy water can rob their bodies of warmth, for they have soft fur, downy feathers or oily flesh. Name four large animals that live in the Arctic regions.

Perhaps you can draw some of the animals in the pictures.



Topics:—
The questions in this lesson will take the place of topics.

129. Animals and their Homes.

Every creature is suited to its proper home.

There are many kinds of bills, legs, feet, tongues, noses and teeth, but each kind has its special uses. It helps the animal to get food or to protect itself in the place where it lives.

The eagle has sharp claws and a beak to hold and to tear the flesh on which it feeds. The heavy horse with wide hoofs can graze on soft land, and its feet do not cling to the grass roots.

The humming bird has a long, slender bill which it thrusts deep into sweet blossoms for nectar and insects. The heron has long legs for wading, and a neck of about the same length to reach down for food. *See pictures on the next page.*

Animals have many kinds of coverings. Some animals are suited to live in water, and others on land or in the air.

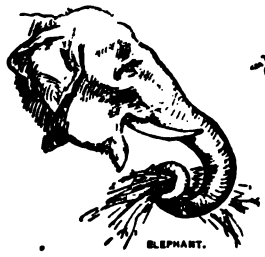
There are turtles with strong shells, fish with thin scales, birds with light feathers, frogs with smooth skin, sheep with curly wool, and squirrels with soft fur.

All around us there is a struggle for food. The sharp-eyed robin makes a dainty meal of earthworms, and soon the cheery songster may be in the claws

of a cat. The owl flies about in the evening, looking for field-mice.

Every creature has some means of defense or of escape.

The fly, with its many eyes and its wings, often saves itself by flight. The turtle draws itself within its hard shell. The bee thrusts out its sting. The horse



kicks, the cow tosses, the dog bites and the squirrel leaps from branch to branch or darts into a hole.

Animals often roam about in search of food, but there are places that they cannot cross. They may be swift and strong, but they cannot live beyond the regions that produce their food.

Cattle roam over meadows and high, grassy plains, but they cannot pass over broad, rocky heights or sandy tracts. The wild horse must stop at the border of the grass land. Animals whose food is in

the sea cannot wander far from the shore.

Perhaps no animal shows more clearly than the camel how creatures grow to fit their homes. *See pictures on pages 1, 46, 103* and *162*. The home of this animal is in the deserts of the Old World.

The camel must often travel three or four days without drinking, but it can carry an extra supply of water in little cells on the walls of its first stomach.

The camels of the Sahara desert have single humps on their backs; the camels of the Gobi desert have double humps. When the camels are well fed, the humps grow very large, for they are masses of fat. When the animals go for a long time without food, this fat nourishes the body.

The hot sand cannot harm the camel's eyes, for they are covered with long lashes. When the dust is whirling round, this beast can close its nostrils. How well the camel is fitted to its desert home!

TOPICS:—Coverings of animals; means of defense; where animals must live.

130. Uses of Plants and Animals.

Name six plants that supply food.

What kinds of cloth are made from plants?

What kinds of wood are used in houses?

Do you know of any plants that are used for medicine?

What articles are made from bark? From sap? From buds? Leaves? Roots? Blossoms? Wood? What animals work for man?

What uses does man make of the cow? Of the horse? Of the hen? Dog? Cat? Sheep?

What is made from skins? From shells? From hair? Horns? Furs? Feathers? Bones? What animals supply man with food? With clothing?

What animals have you for pets at home?

131. New England States.[1]

With swift streams for turning mill wheels and with deep harbors for ships bringing cotton, wool, hides, iron ore and other raw material, New England long ago became famous for the manufacture of cloth, boots and shoes, and hardware. The manufactures, of course, led to a large trade through the seaports and over the railroads. Steam power is now largely used in the mills.

Public Garden, Boston.

The quarries of New England yield fine marble and granite. The soft-wood trees of its northern forests are used for making lumber and paper pulp. Not far from its shores are shallow places in the sea, that abound in food fish.

MASSACHUSETTS. **Boston,** the capital of Massachusetts, has a fine harbor and is one of the leading seaports of our country. It is also the greatest center of trade in New England. The cities and towns for many miles around Boston have hundreds of busy workshops. Here are mills for making cotton and woolen cloth; shops for boots and shoes; and factories for all kinds of jewelry, clocks, cutlery and other articles.

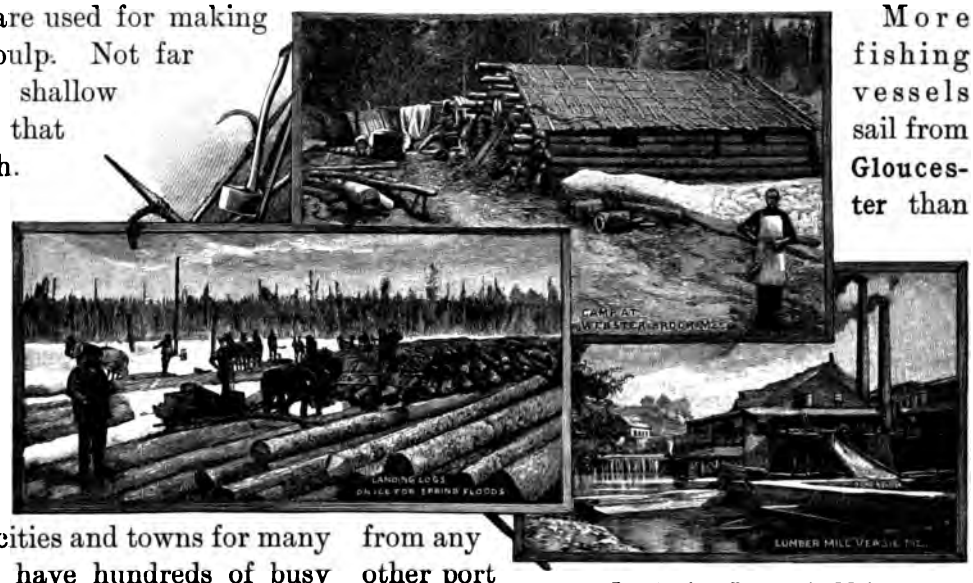
Boston is like a main office for these workshops. It receives for them such products as raw cotton, wool, hides and leather, and sends cloth, boots, shoes and other manufactures to many parts of the world.

Boston handles more wool than any other city in the United States. It is also the greatest boot and shoe market in the world. This city and its suburbs have been the homes of many famous patriots, poets and authors.

Worcester, the second city in size in this state, is a railroad center and has large mills.

Fall River and **Lowell** have excellent water power and make more cotton cloth than any other two cities in America. **Cambridge** is the seat of Harvard University. **Plymouth** was the landing place of the Pilgrims (1620).

More fishing vessels sail from **Gloucester** than from any other port in the country.



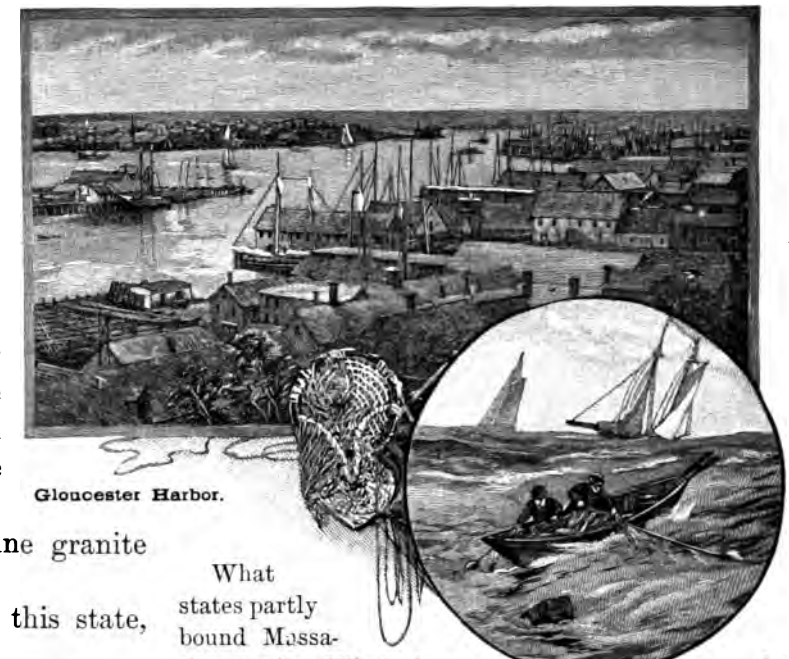
Lumbering Scenes in Maine.

[1] The *map studies* on page 116 should precede this text.

MAINE. **Portland,** on a fine harbor, is the largest city in Maine. It is a center of supply for many cities and towns having mills and factories. **Augusta** is the capital.

Bangor marks the place where lumber sawed on the banks of the Penobscot river can be placed on vessels at the head of tide water.

NEW HAMPSHIRE. **Manchester** has great cotton mills and, like Lowell and other cities, has been built where the water power of the Merrimac river can be used.



Gloucester Harbor.

Concord, the capital, is near fine granite quarries.

Portsmouth, the only seaport of this state, has a good harbor.

VERMONT. **Burlington** has the best harbor on lake Champlain and handles much of the lumber made in this lake region.

(*Continued on page 118.*)

MAP STUDIES. Locate this group of states. *See page 65.* Name the New England states. Which of these states border on Canada? On New York? On the Atlantic ocean? What states partly bound Massachusetts? What does the relief map on page 61 show about the surface of New England? Locate the Green mountains; White mountains. What have you learned about the highland to which these mountains belong?

In what general direction do most of the rivers of New England flow? Describe the course of the Connecticut river. Where is the Penobscot river? Merrimac river?

What does the map of New England show about its coastline? Locate Long island sound; Narragansett bay; Penobscot bay; Cape Cod peninsula; Nantucket sound.

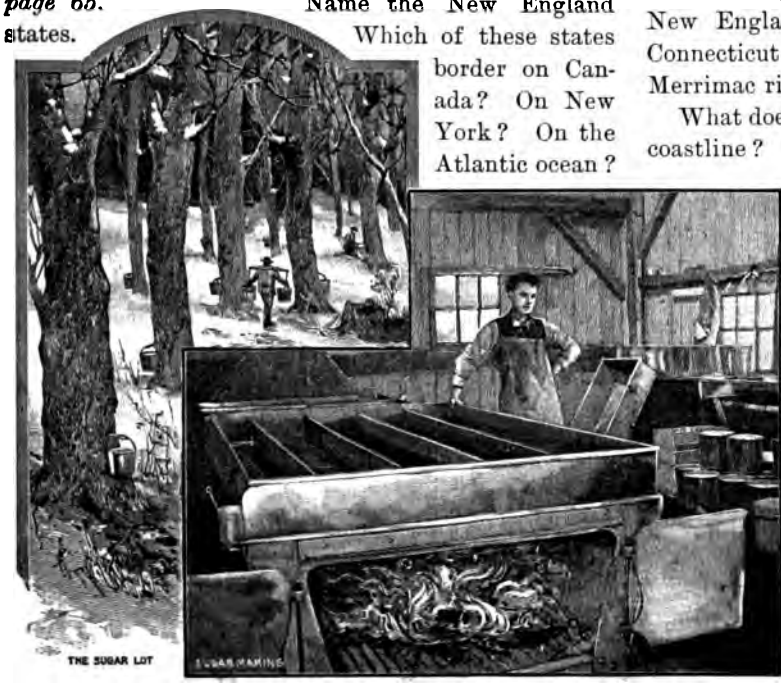
To what state do Marthas Vineyard and Nantucket belong? To what state does Long island belong? *See colors on map.*

Where is Mt. Desert?

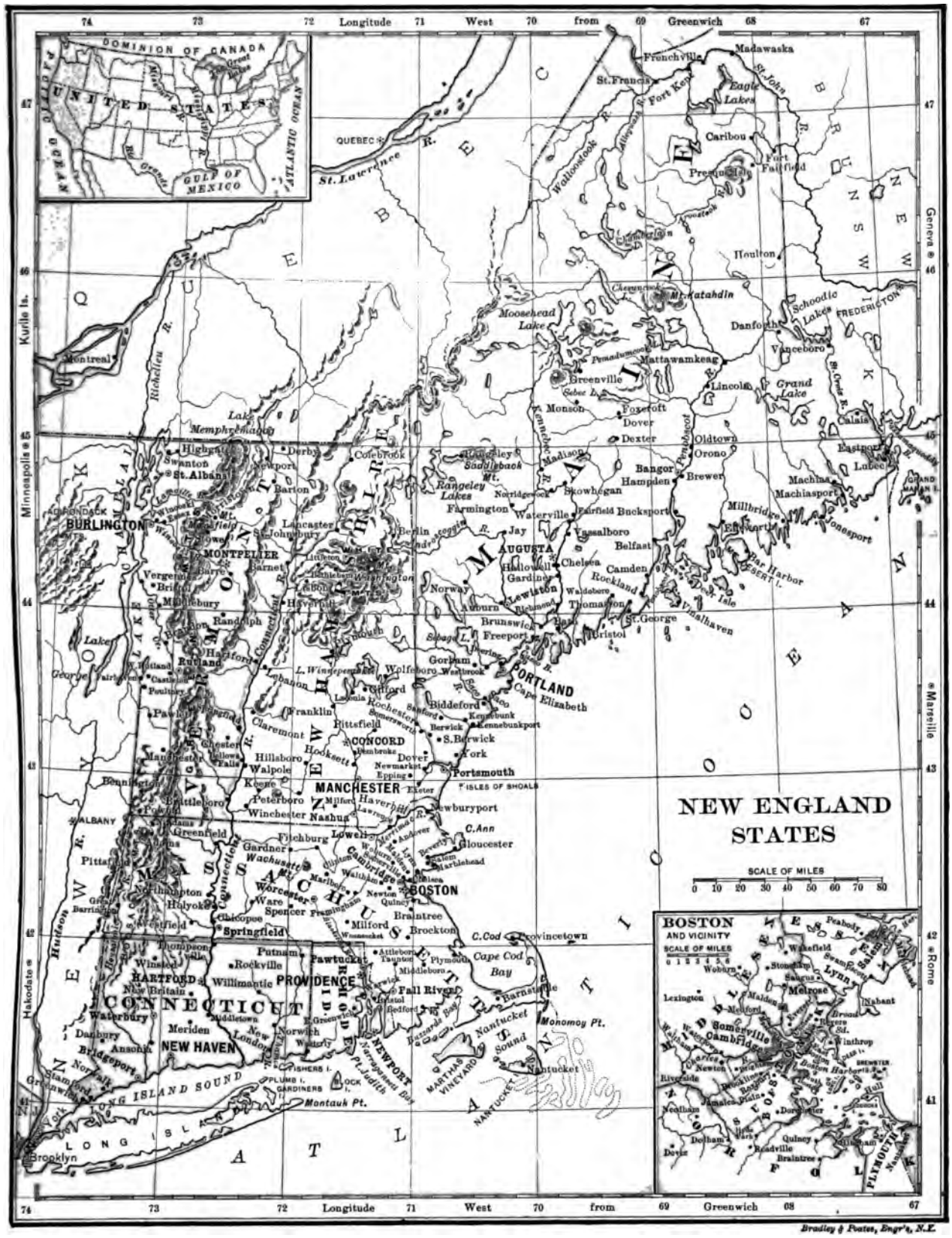
In which heat belt is New England? What are its seasons? *See page 33.* What are the chief products of this heat belt? *See page 110.*

What do the maps on pages 71 to 78 show about the products of New England?

Which part of this group of states is most thickly settled? *See map on page 68.*



Making Maple Sugar in Vermont.


NEW ENGLAND STATES
SCALE OF MILES
0 10 20 30 40 50 60 70 80
BOSTON AND VICINITY
SCALE OF MILES
Longitude West from Greenwich
DOMINION OF CANADA
UNITED STATES
GULF OF MEXICO
ATLANTIC OCEAN
QUEBEC
Montreal
Kurile Is.
Minneapolis
Geneva
Marseille
Rome
Hakodate
Brooklyn
BURLINGTON
MONTPELIER
AUGUSTA
PORTLAND
CONCORD
MANCHESTER
BOSTON
PROVIDENCE
HARTFORD
NEW HAVEN
NEWPORT
ALBANY
Springfield
Worcester
Lowell
Lewiston
Bangor
Portsmouth
Nantucket
Montauk Pt.
Monomoy Pt.
Cape Cod Bay
C. Cod
C. Ann
Provincetown
Newburyport
Gloucester
Salem
Lynn
Melrose
Cambridge
Somerville
Roxbury
Dorchester
Quincy
Braintree
Brockton
Plymouth
Fall River
Pawtucket
Providence
Hartford
New Haven
Bridgeport
Stamford
Norwalk
Waterbury
Meriden
Middletown
New London
Norwich
Westerly
Newport
Pt. Judith
Block I.
Fishers I.
Plum I.
Gardiners
Long Island Sound
Long Island
Atlantic Ocean
Martha's Vineyard
Nantucket Sound
Nantucket
Hudson R.
Connecticut R.
Kennebec R.
Penobscot R.
St. Lawrence R.
Richelieu R.
Lake Champlain
Lake Memphremagog
Lake George
Moosehead Lake
Rangeley Lakes
Sebago L.
Grand Lake
Schoodic Lakes
Eagle Lakes
Madawaska
Frenchville
St. Francis
Fort Kent
Caribou
Presque Isle
Fort Fairfield
Houlton
Danforth
Vanceboro
Calais
Eastport
Lubec
Machias
Machiasport
Jonesport
Millbridge
Bar Harbor
Mt. Desert I.
Deer Isle
Vinalhaven
St. George
Bristol
Belfast
Camden
Rockland
Thomaston
Waldoboro
Bath
Brunswick
Freeport
Gorham
Westbrook
Wolfeboro
Biddeford
Kennebunk
Kennebunkport
Berwick
S. Berwick
York
Dover
Newmarket
Epping
Exeter
Isles of Shoals
Keene
Peterboro
Winchester
Nashua
Milford
Hillsboro
Walpole
Hooksett
Pittsfield
Franklin
Claremont
Lebanon
Hanover
Lyme
Rutland
Brattleboro
Bennington
Greenfield
Pittsfield
Northampton
Holyoke
Chicopee
Springfield
Ware
Spencer
Gardner
Fitchburg
Marlborough
Framingham
Newton
Quincy
Braintree
Brockton
Milford
Attleboro
Taunton
Middleboro
Plymouth
Barnstable
Putnam
Rockville
Willimantic
Winsted
New Britain
Waterbury
Danbury
Ansonia
Bridgeport
Meriden
Middletown
New London
Norwich
Westerly
Greenwich
Bristol
Fall River
Newport
Pawtucket
Providence
Hartford
New Haven
Brooklyn
Long Island
Montauk Pt.
Peabody
Wakefield
Stoneham
Saugus
Lynn
Melrose
Malden
Medford
Lexington
Nahant
Somerville
Cambridge
Newton
Brookline
Roxbury
Dorchester
Quincy
Braintree
Weymouth
Hingham
Plymouth
Dedham
Needham
Dover
Natick
Wellesley
Charles R.
Neponset R.
Mystic R.
Boston Harbor
Winthrop
Revere
Chelsea
Brewster
Plymouth
Bradley & Postes, Engr's, N.Y.

Rutland is the center of the marble industry, and **Barre** is famous for its granite.

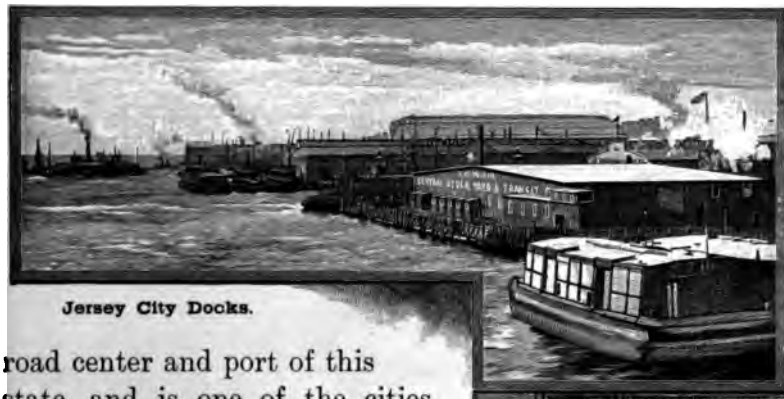
Montpelier is the capital.

RHODE ISLAND. **Providence,** at the head of Narragansett bay, has the largest jewelry factories in America. This city is second in size in New England.

Newport is a well-known summer resort. Both these cities are capitals of the state.

CONNECTICUT. **New Haven** is the chief railroad center and port of this state, and is one of the cities noted for hardware. Yale University is in this city.

Hartford is the capital. **Bridgeport,** on Long Island sound, has had a rapid growth.



Jersey City Docks.

132. Middle Atlantic States.

Name the states of this group. What states are east of New York state? What bodies of water nearly separate New York from Canada? Which states border on Pennsylvania?

To what highland do all the mountains of these states belong? *See map on page 55.* **Locate the Adirondack and Catskill mountains; Blue ridge; Allegheny mountains.**

Describe the course of the Hudson river. What large branch joins the Hudson from the west? Between what states does the Delaware river flow, and into what bay? Name three rivers flowing into Chesapeake bay. What two rivers unite to form the Ohio at Pittsburg? Into what great river does the Ohio flow?

Which of the Great Lakes gives New York state the longest water front? What river flows out of lake Erie? For what is this river noted? Where are lakes George and Champlain?

What large island belongs to New York state? Name the sound north of this island. Locate Sandy Hook; Delaware bay; Chesapeake bay; the Thousand Isles.

In what heat belt are the Middle Atlantic states? What are the seasons in this belt? *See page 33.* **Which has the milder seasons, Virginia or Maine? Why?**

Review the text and the maps on pages 71 to 78, and tell what you can about the natural products of this group of states.

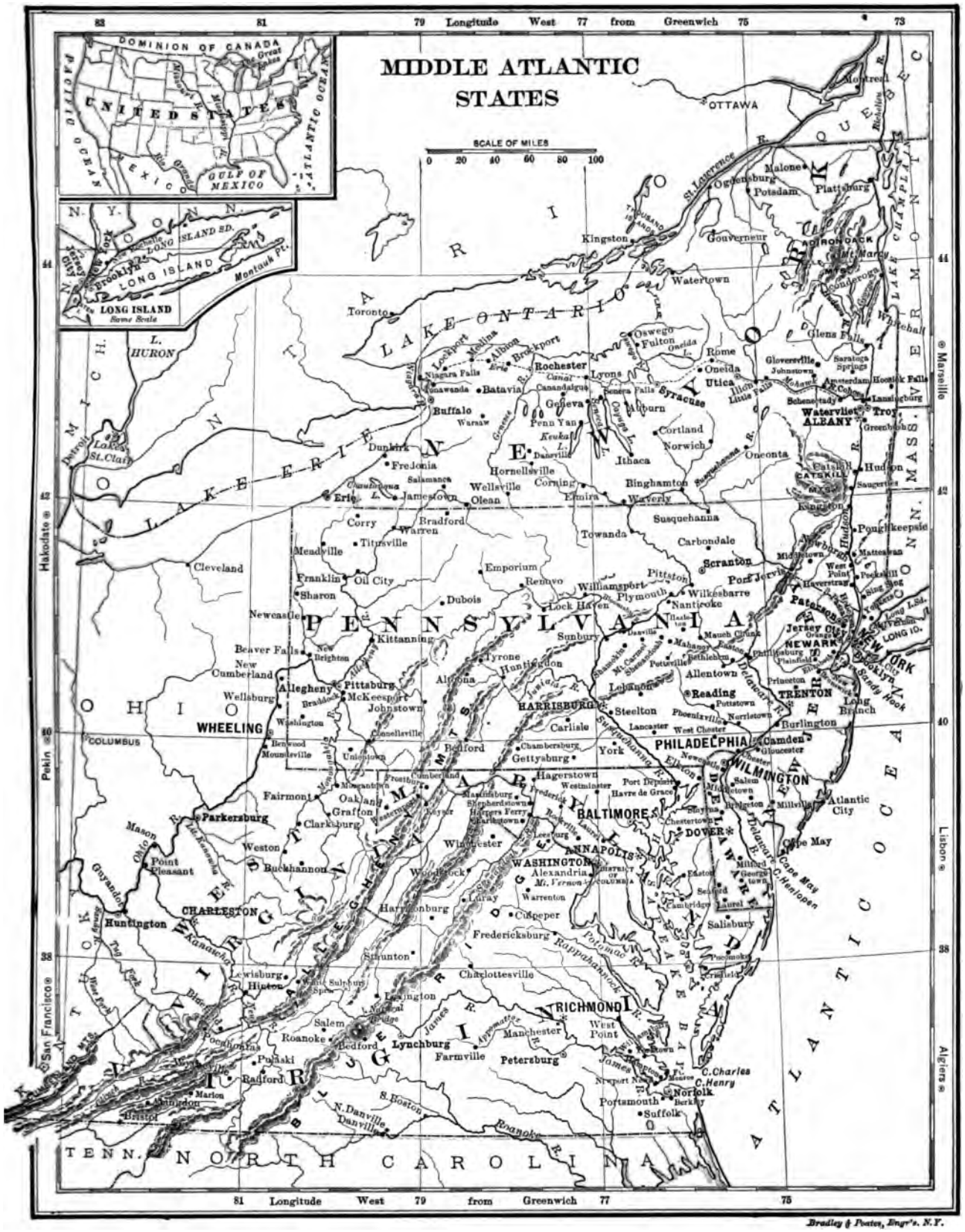
Which part of our country is most thickly settled? *See map on page 68.*

The highlands in this group of states yield coal, iron ore, petroleum and natural gas. Plenty of fuel and iron are the basis of many kinds of manufactures.

Water Front, New York.

The slight sinking of the coast lands here, as in New England, has let the sea flow into former valleys, and thus made fine harbors. Railroads through the Mohawk valley, and over the highland farther south, connect the seaports with the cities of the prairies and other parts of the West.

The plain along the coast produces peaches and other fruits and vegetables. Some of

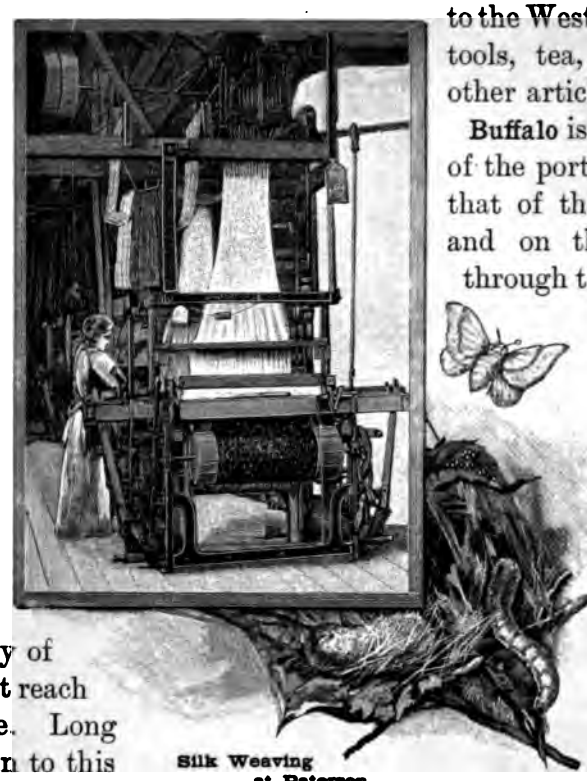

MIDDLE ATLANTIC STATES
SCALE OF MILES
0 20 40 60 80 100
DOMINION OF CANADA
UNITED STATES
PACIFIC OCEAN
ATLANTIC OCEAN
GULF OF MEXICO
LONG ISLAND
Same Scale
83 81 79 Longitude West 77 from Greenwich 75 73
OTTAWA
Montreal
Quebec
Ogdensburg
Potsdam
Malone
Plattsburg
Kingston
Gouverneur
Watertown
Toronto
L. HURON
L. ONTARIO
L. ERIE
L. MICH.
Oswego
Fulton
Oneida
Rome
Utica
Syracuse
Rochester
Lyons
Canandaigua
Geneva
Auburn
Batavia
Buffalo
Niagara Falls
Dunkirk
Fredonia
Jamestown
Erie
Corry
Titusville
Meadville
Cleveland
Franklin
Oil City
Sharon
Newcastle
Kittanning
Beaver Falls
New Brighton
New Cumberland
Allegheny
Pittsburg
McKeesport
Johnstown
Wellsburg
Washington
WHEELING
COLUMBUS
Bedford
Bradford
Warren
Olean
Salamanca
Wellsville
Corning
Hornellsville
Penn Yan
Ithaca
Cortland
Norwich
Binghamton
Elmira
Waverly
Towanda
Susquehanna
Carbondale
Scranton
Pittston
Wilkesbarre
Nanticoke
Plymouth
Williamsport
Lock Haven
Emporium
Renovo
Dubois
Sunbury
Tyrone
Huntingdon
Altoona
Lebanon
Reading
Allentown
Bethlehem
Easton
Pottsville
Mauch Chunk
HARRISBURG
Steelton
Carlisle
Chambersburg
Gettysburg
York
Lancaster
Phoenixville
Norristown
West Chester
Pottstown
PHILADELPHIA
Camden
Gloucester
Burlington
Trenton
Princeton
Long Branch
Paterson
Jersey City
NEWARK
Plainfield
Elizabeth
Perth Amboy
Sandy Hook
Long Island
Hudson
Poughkeepsie
Newburgh
Middletown
Matteawan
Catskill
Hudson
Saugerties
Kingston
Troy
Watervliet
ALBANY
Schenectady
Amsterdam
Gloversville
Johnstown
Saratoga Springs
Glens Falls
Hoosick Falls
Lansingburgh
Greenbush
Ogdensburg
Malone
Plattsburg
Burlington
Camden
Gloucester
Salem
Millville
Atlantic City
Cape May
Dover
Milford
Georgetown
Laurel
Seaford
Easton
Cambridge
Salisbury
Chestertown
Havre de Grace
Port Deposit
Westminster
Hagerstown
Frederick
Cumberland
Frostburg
Mount Savage
Mount Pleasant
Fairmont
Oakland
Grafton
Clarksburg
Parkersburg
Point Pleasant
Weston
Buckhannon
Huntington
CHARLESTON
Lewisburg
Hinton
Staunton
Harrisonburg
Winchester
Woodstock
Luray
Culpeper
Fredericksburg
Charlottesville
Lexington
Salem
Roanoke
Bedford
Lynchburg
Farmville
Petersburg
Pulaski
Radford
Marion
Abingdon
Bristol
Danville
N. Danville
S. Boston
Roanoke
Norfolk
Portsmouth
Berkley
Suffolk
Newport News
Hampton
Yorktown
Williamsburg
West Point
Manchester
RICHMOND
Petersburg
BALTIMORE
ANNAPOLIS
WASHINGTON
Alexandria
Mt. Vernon
Warrenton
Leesburg
Frederick
Hagerstown
Chambersburg
Gettysburg
Harrisburg
Lancaster
Reading
Easton
Scranton
Wilkesbarre
Williamsburg
Yorktown
C. Charles
C. Henry
C. Henlopen
Cape May
Atlantic City
Long Branch
Sandy Hook
Long Island
Hudson
Poughkeepsie
Newburgh
Middletown
Matteawan
Catskill

the broad valleys and plains yield grain and tobacco. Virginia raises large crops of cotton.

NEW YORK. **New York** is the second city in size in the world. **Brooklyn, Long Island City** and many towns and villages have been annexed to New York, making the total number of people in the city about 3,500,000.

New York has a larger trade than any other city in the United States. Its commerce is now about equal to that of London, the largest city in the world.

The *Erie canal* leads from lake Erie to the Hudson river, and many of the products of the West reach New York by this route. Long lines of railroad also run to this city, from all parts of the country. The West sends some of its grain, beef and iron, while the South sends part of its cotton and other products to this seaport.



Silk Weaving at Paterson.

New York is a great center of manufactures. Nearly all kinds of goods are made in this city and the region round it.

The canals, ships and railroads carry back to the West and South clothing, shoes, tools, tea, coffee and hundreds of other articles.

Buffalo is the link between the trade of the ports of the Great Lakes and that of the cities on the Erie canal and on the railway lines passing through the Mohawk valley. It has a fine harbor on lake Erie. **Rochester** and **Syracuse** are centers of trade on the Erie canal route. The former has large flour mills; the latter is well-known for its salt works.

West Point, on the Hudson, contains the United States Military Academy.

Albany, the capital, is a railroad center on the Hudson river.

PENNSYLVANIA. **Philadelphia** is the third city in size in the Union. It has a fine harbor on the Delaware river and is one of the leading ports of the United States.

Shipyards, Philadelphia.

The nearness of coal and iron gave to Philadelphia a strong start in manufactures. Its workshops turn out nearly every kind of iron and steel goods. This city ships a large amount of coal and iron to other cities.

Many sheep are raised in the Middle

Atlantic states. Wool is taken to Philadelphia and there made into carpets, yarn and cloth. This city leads the world in making carpets.

Philadelphia is reached by railroads from the west, the south and the north. Heavy trains bring to this port grain, beef, cotton, tobacco and other products.

Baltimore City and Harbor.

Pittsburg, at the head of the Ohio river, is noted for its iron and glass manufactures. It is the center of a great region yielding petroleum and natural gas.

Allegheny is the twin city of Pittsburg, though not so large, and has about the same kinds of industries.

Harrisburg, the capital, is on the Susquehanna river. There are large iron works in its suburbs.

NEW JERSEY. **Newark,** the largest city in this state, has extensive tanneries and produces patent leather.

Jersey City shares with New York the fine harbor at the mouth of the Hudson. Many steamship lines have their piers on the Jersey City side of the harbor. Ferries connect this city with New York.

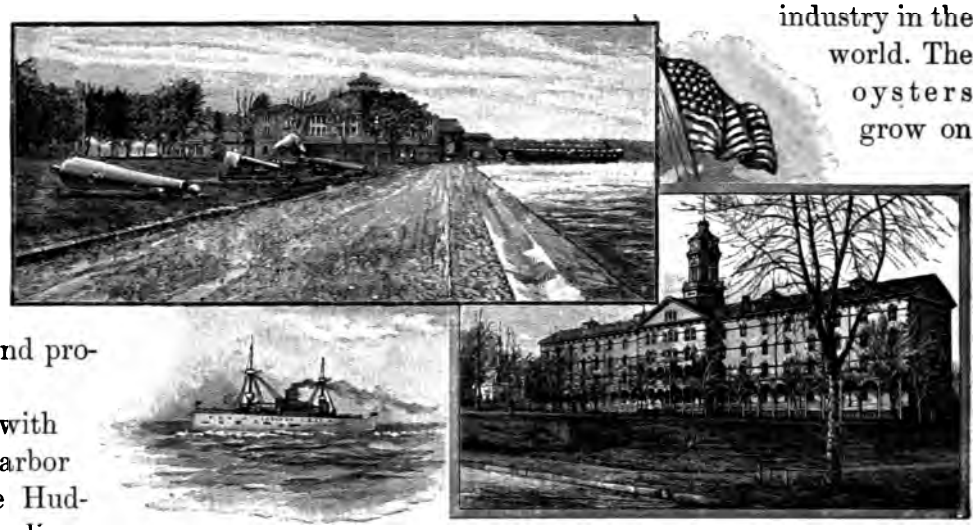
Trenton, the capital, is well known for its beautiful pottery.

DELAWARE. **Wilmington** is the chief city in the state and makes cars and leather. The city has a deep and safe harbor on the Delaware river.

Dover, the capital, is in the center of a rich fruit district. Many Delaware peaches are canned here or packed for shipment.

MARYLAND. **Baltimore** is one of the leading seaports of the United States. Its trade is about equal in value to that of Philadelphia. In the city are large flour and tobacco mills. Western grain and flour are leading exports.

Baltimore is the center of the largest oyster industry in the world. The oysters grow on the bottom of Chesapeake bay or its arms.



Naval Academy at Annapolis.

Annapolis, the capital, is the seat of the United States Naval Academy.

Tobacco Market.

DISTRICT OF COLUMBIA. **Washington,** the capital of the United States, is not in any state or territory, but is on a tract of land set apart for the use of the nation. This area is called the *District of Columbia.* The President and many other officers of the government reside in Washington; the laws of the nation are made in this city, and the highest court in the land sits here.

Long-Leaf Pine, North Carolina.

VIRGINIA. **Richmond,** the capital, is at the head of tide water on the James river. This city is a leading tobacco market.

Norfolk has one of the best harbors on the Atlantic coast and exports large quantities of cotton.

WEST VIRGINIA. **Wheeling,** the largest city in the state, has great iron mills.

Charleston, the capital, is in an area that produces large quantities of salt.

133.

Southern States, — Eastern Section.

Name the states of this group. Which states of this group border on the Atlantic ocean? On the gulf of Mexico? On the Mississippi river? Which contain parts of the Appalachian highland?

Locate the Blue ridge; Cumberland mountains; Mt. Mitchell.

In what general direction do the rivers of the Atlantic slope flow? Of the Gulf slope? Describe the course of the Tennessee river. Where is the Cape Fear river? Savannah river? St. Johns river? Alabama river? Yazoo river?

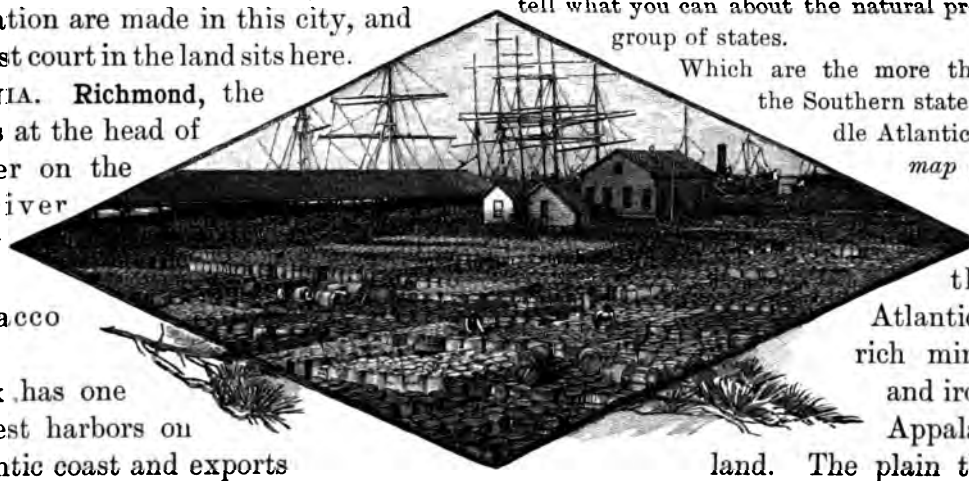
Locate the Florida Keys; Pamlico sound; Mobile bay; Tampa bay; Florida strait; the Everglades swamps; lake Okechobee; Bahama islands.[1]

In which heat belt is the greater part of this group of states? What are the seasons in this belt? *See map on page 33.*

Review the text and maps on pages 71 to 78, and tell what you can about the natural products of this group of states.

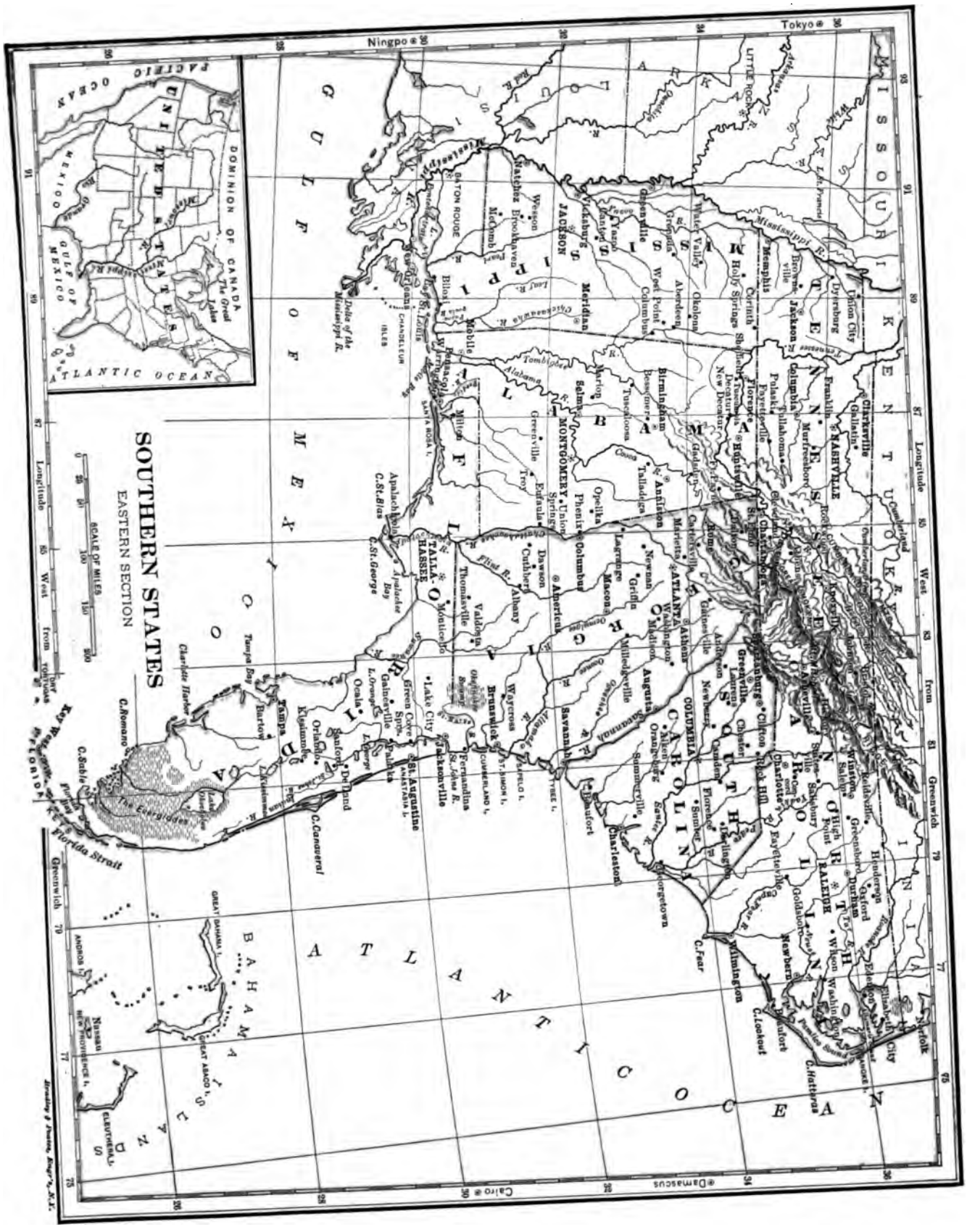
Which are the more thickly settled, the Southern states or the Middle Atlantic states? *See map on page 68.*

This region shares with the Middle Atlantic states the rich mines of coal and iron ore in the Appalachian highland. The plain that extends from this highland to the sea



Shipping Rosin, Savannah.

[1] These islands belong to Great Britain.

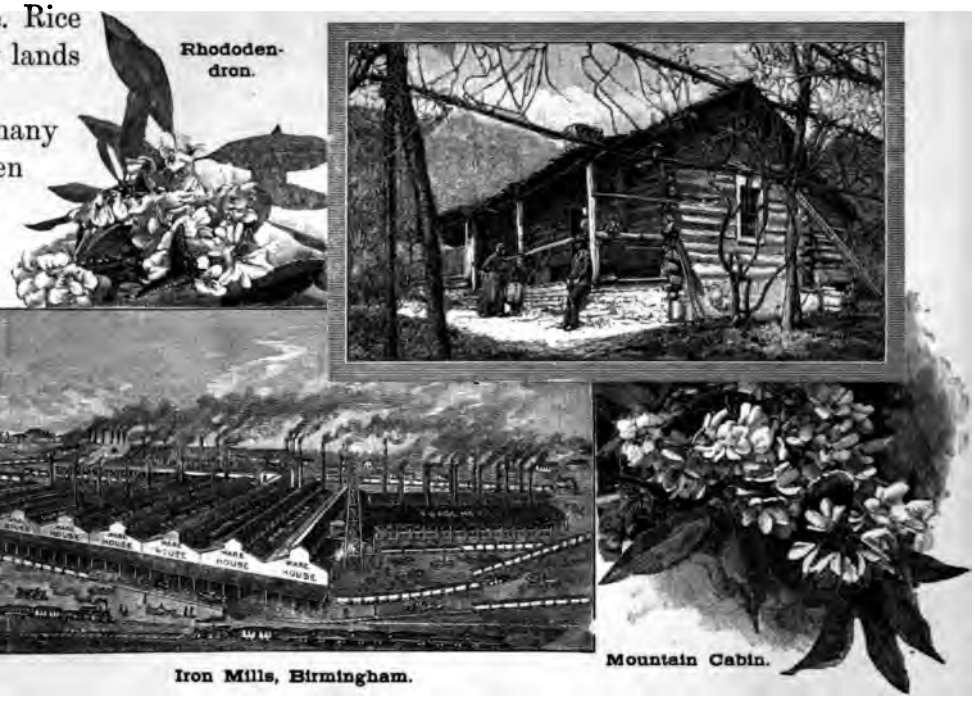

SOUTHERN STATES
EASTERN SECTION
SCALE OF MILES
GULF OF MEXICO
ATLANTIC OCEAN
BAHAMA ISLANDS
Florida Strait
The Everglades
DOMINION OF CANADA
UNITED STATES
MEXICO
GULF OF MEXICO
PACIFIC OCEAN
Longitude West from Greenwich
Ningpo
Tokyo
Cairo
Damascus
MISSOURI
KENTUCKY
TENNESSEE
ALABAMA
MISSISSIPPI
ARKANSAS
LOUISIANA
GEORGIA
FLORIDA
SOUTH CAROLINA
NORTH CAROLINA
VIRGINIA
Memphis
Jackson
Nashville
Chattanooga
Birmingham
Montgomery
Mobile
New Orleans
Atlanta
Augusta
Savannah
Columbia
Charleston
Wilmington
Raleigh
Norfolk
Jacksonville
Tampa
Pensacola
Vicksburg
Meridian
Columbus
Macon
Brunswick
Wilmington
C. Fear
C. Hatteras
C. Lookout
C. Canaveral
C. Romano
C. Sable
C. St. Blas
C. St. George
Charlotte Harbor
Tampa Bay
Apalachicola
Apalachee Bay
Delta of the Mississippi R.
Nassau
Great Abaco I.
Great Bahama I.
Andros I.
New Providence I.
Eleuthera I.
Key West
Havana
Bradley & Preston, Engr's, N.Y.

on the east and south produces large crops of cotton, tobacco and corn. Parts of it also support thick forests of yellow pine, yielding lumber and turpentine. Rice thrives in the swampy lands along the coast.

In recent years many cotton mills have been built in the South, near the cotton fields. The largest inland cities of the cotton belt are near falls or rapids on the rivers.

NORTH CAROLINA. **Wilmington,** on the tide waters of the Cape Fear river, has a large trade in cotton, tobacco, lumber and turpentine.

Raleigh, the capital, is a well-known market for cotton and tobacco.



Rhododendron.

Mountain Cabin.

Iron Mills, Birmingham.

Steamship Loading Cotton at Savannah.

SOUTH CAROLINA. **Charleston** is on a fine harbor and has a large export trade in cotton, rice and other Southern products.

Columbia, the capital, is a railroad center.

GEORGIA. **Atlanta,** the capital, is a great railroad center, and therefore a market for products of the South. Large cotton mills have been built in the city.

Savannah, at the mouth of the river of the same name, takes high rank in the export of cotton and rice. **Augusta** has some of the largest cotton mills in the South.

FLORIDA. **Key West** is the chief city in Florida. It is built on one of the coral islands of the Florida keys. Many cigars are made in this city, and countless sponges are taken from the waters near by.

Jacksonville, on the St. Johns river, exports lumber and oranges.

Tallahassee is the capital.

ALABAMA. **Mobile** is on a good harbor dredged at the head of Mobile bay. Cotton and lumber are the chief exports.

Birmingham is in the heart of the coal and iron district, and produces iron and steel.

Montgomery, the capital, is a cotton market.

MISSISSIPPI. **Vicksburg** and **Natchez**, on the Mississippi river, are noted cotton markets.

Jackson is the capital.

TENNESSEE. **Nashville**, the capital, has a fine location where the cotton and tobacco belts merge into each other, and is also not far from valuable forests. The trade of the city is chiefly in cotton, tobacco and lumber.

Memphis, on the east bluffs of the Mississippi river, is the leading cotton market in the state. Its river trade is very large, and much of the cotton is also sent by rail to Eastern cities.

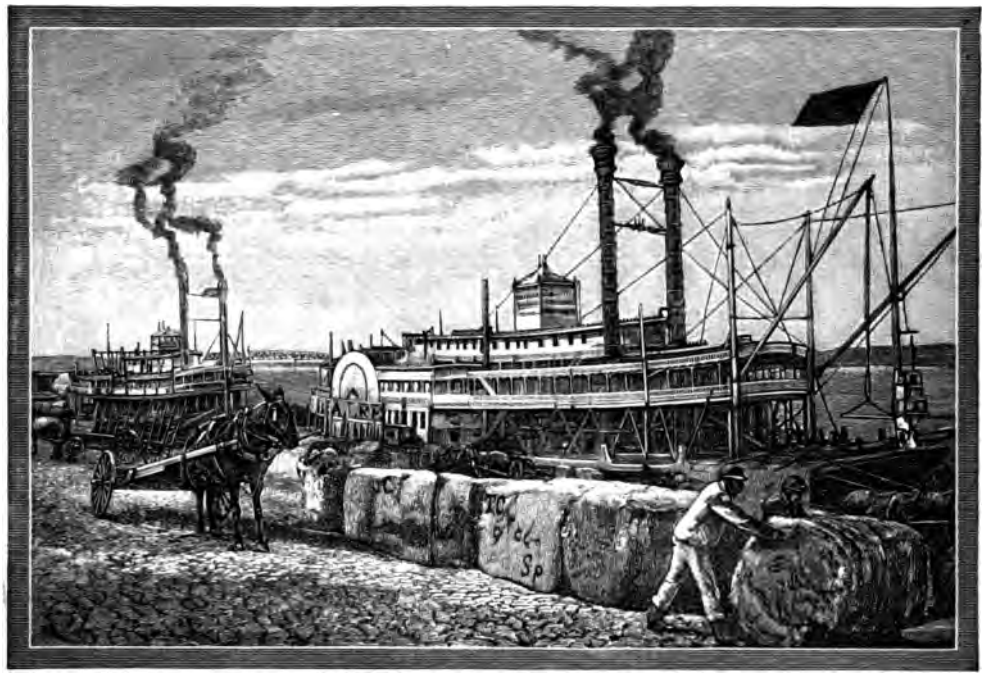
Chattanooga, not far from the southern end of the Appalachian highland, produces great quantities of iron and steel. This is one of the Southern cities which have built huge mills near the coal and iron mines.

Southern Cotton Mill.

134. Southern States, — Western Section.[1]

The products of this section are like those of the eastern section of Southern states. Cotton, corn and tobacco thrive over great areas; the yellow pine belt continues westward far into Texas; sugar cane and rice grow in the deltas and in other damp lands along the rivers; cattle and sheep graze upon large tracts of land, especially in Texas.

LOUISIANA. **New Orleans** is the chief city of the Southern states. It is about one hundred miles from the mouth of the Mississippi river and forms a natural



Shipping Cotton at Memphis.

[1] The *map studies* on the next page are to precede this text.

outlet of trade towards the south. The noble river floats to New Orleans many of the products of the states that line its banks.

New Orleans is the leading market for cotton. Its trade in rice and sugar also is large. The mills and workshops of the city are growing very fast.

Levee or River Front in New Orleans.

Several lines of railroad center in New Orleans.

Shreveport, on the Red river, is a large cotton market. **Baton Rouge,** on the Mississippi river, is the capital.

Texas. This is the largest of all the states. Its area is five times as great as that of New York, but not half so great as that of Alaska.

Scene on a Texas Cattle Ranch.

(*Continued on page 128.*)

NOTE: — This group includes both states and *territories.* Alaska, Arizona, Indian Territory, New Mexico and Oklahoma have not yet been given all the rights of states, but are known as *territories.*

MAP STUDIES. Name the states and territories of this group. Which states of this group border on the gulf of Mexico? On the Mississippi river? In what part of our country is Texas? What great highland enters its western part? Between what state and country does the Rio Grande flow?

What does the relief map on page 60 show about the surface of this section? Compare the coastline with that of New England.

Where is the Staked plain? Galveston bay? Padre island? Mississippi delta? Describe the course of the Rio Grande. Which state and two territories of this group are crossed by the Arkansas river? What river flows along the southern border of these two territories? Name two long rivers in Texas.

Describe the seasons of this group. *See page 33.* Review the text and maps on pages 71 to 78, and tell what you can about the natural products of these states and territories. Which parts of these states contain the most people?

CENTRAL STATES
EASTERN SECTION
SCALE OF MILES
0 20 40 60 80 100 120
Longitude West from Greenwich
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
LAKE ONTARIO
DOMINION OF CANADA
UNITED STATES
GULF OF MEXICO
ATLANTIC OCEAN
PACIFIC OCEAN
MEXICO
ISLE ROYAL
MICHIPICOTEN I.
APOSTLES IS.
Duluth
Superior
Washburn
Ashland
Houghton
Red Jacket
Keweenaw Pt.
Ontonagon
Marquette
Negaunee
Escanaba
Iron River
Iron Mountain
Rhinelander
Antigo
Merrill
Wausau
Marinette
Oconto
Green Bay
Menominee
Hudson
Chippewa Falls
Eau Claire
Marshfield
Stevens Point
Black River Falls
Necedah
Tomah
Sparta
La Crosse
Berlin
Oshkosh
Appleton
Neenah
Menasha
Fond du Lac
Beaver Dam
Baraboo
Portage
Watertown
Prairie du Chien
MADISON
MILWAUKEE
Mineral Point
Platteville
Fort Atkinson
Waukesha
Whitewater
Janesville
Beloit
Racine
Kenosha
Dubuque
Galena
Freeport
Belvidere
Rockford
Waukegan
Elgin
Sterling
Dixon
Aurora
CHICAGO
Joliet
Moline
Rock Island
Peru
Ottawa
Kewanee
Streator
Kankakee
Braidwood
Galesburg
Monmouth
Peoria
Canton
Pekin
Normal
Bloomington
Macomb
Beardstown
Quincy
Jacksonville
SPRINGFIELD
Lincoln
Champaign
Decatur
Danville
Paris
Charleston
Mattoon
Terre Haute
Pana
Litchfield
Effingham
Alton
East St. Louis
St. Louis
Belleville
Centralia
Olney
Vincennes
Mt. Carmel
Carmi
Mt. Vernon
Evansville
Henderson
Owensboro
Cloverport
Elizabethtown
Louisville
Earlington
Princeton
Cairo
Paducah
Mayfield
Hickman
Fulton
Hopkinsville
Russellville
Bowling Green
Franklin
Glasgow
Somerset
Williamsburg
Middlesboro
Harbourville
Danville
Lebanon
Richmond
Nicholasville
Winchester
Lexington
Paris
Mt. Sterling
FRANKFORT
Shelbyville
Cynthiana
Carrollton
Maysville
Portsmouth
Ironton
Ashland
Gallipolis
Jackson
Chillicothe
Hamilton
Dayton
CINCINNATI
Newport
Covington
Madison
Seymour
Mitchell
Jeffersonville
Huntingburg
New Albany
Washington
Vincennes
Bloomington
Brazil
Greencastle
Franklin
Shelbyville
Connersville
INDIANAPOLIS
Anderson
Muncie
Lebanon
Frankfort
Lafayette
Kokomo
Logansport
Wabash
Huntington
Bluffton
Marion
Portland
Fort Wayne
Warsaw
Plymouth
South Bend
Elkhart
Goshen
Kendallville
Valparaiso
Laporte
Hammond
Michigan City
St. Joseph
Niles
Benton Harbor
Three Rivers
Kalamazoo
Battle Creek
Jackson
Marshall
Allegan
Hastings
Charlotte
Grand Rapids
Grand Haven
Holland
Muskegon
Greenville
St. Johns
Ionia
Owosso
Flint
Port Huron
Mt. Clemens
Pontiac
LANSING
DETROIT
Ann Arbor
Ypsilanti
Adrian
Hillsdale
Coldwater
Monroe
Toledo
Fremont
Sandusky
Elyria
Oberlin
Cleveland
Warren
Youngstown
Akron
Norwalk
Tiffin
Findlay
Fostoria
Defiance
Van Wert
Lima
Kenton
Marion
Galion
Bucyrus
Mansfield
Wooster
Massillon
Canton
Alliance
Salem
East Liverpool
Wellsville
Steubenville
Martins Ferry
Cambridge
Bellaire
Zanesville
Newark
Delaware
Mt. Vernon
COLUMBUS
Springfield
Urbana
Troy
Piqua
Sidney
Dayton
Xenia
Circleville
Lancaster
Marietta
Nelsonville
Wellston
Washington
Chillicothe
Jackson
Gallipolis
Ironton
Portsmouth
Ashland
Maysville
Paris
Lexington
Mt. Sterling
Winchester
Richmond
Danville
Lebanon
Somerset
Harbourville
Williamsburg
Middlesboro
Glasgow
Franklin
Bowling Green
Hopkinsville
Russellville
Mayfield
Hickman
Fulton
Paducah
Cairo
Earlington
Princeton
Owensboro
Henderson
Evansville
Mt. Vernon
Carmi
Murphysboro
Duquoin
Mt. Carmel
Olney
Centralia
Belleville
East St. Louis
St. Louis
Alton
Litchfield
Effingham
Pana
Mattoon
Charleston
Paris
Decatur
Champaign
Lincoln
Jacksonville
Quincy
Beardstown
Macomb
Pekin
Canton
Peoria
Monmouth
Galesburg
Streator
Kankakee
Braidwood
Ottawa
Kewanee
Peru
Joliet
Aurora
Elgin
Sterling
Dixon
Rock Island
Moline
Dubuque
Freeport
Belvidere
Rockford
Waukegan
Janesville
Beloit
Racine
Kenosha
Mineral Point
Platteville
Fort Atkinson
Waukesha
Whitewater
Monroe
Prairie du Chien
Baraboo
Portage
Watertown
Beaver Dam
Fond du Lac
Oshkosh
Appleton
Neenah
Menasha
Berlin
Sparta
Tomah
Necedah
Black River Falls
Menominee
Hudson
Chippewa Falls
Eau Claire
Marshfield
Stevens Point
Wausau
Merrill
Antigo
Rhinelander
Iron Mountain
Iron River
Escanaba
Manistique
Negaunee
Marquette
Houghton
Red Jacket
Keweenaw Pt.
Ontonagon
Duluth
Superior
Washburn
Ashland
Hurley
Ironwood
APOSTLES IS.
ISLE ROYAL
MICHIPICOTEN I.
Sault Ste. Marie
St. Ignace
Mackinac
Cheboygan
Petoskey
Alpena
Tawas
Au Sable
Cadillac
Manistee
Ludington
Big Rapids
Mt. Pleasant
W. Bay City
Saginaw
Bay City
Traverse City
Kalkaska
Manitowoc
Sheboygan
Pictured Rocks
North Channel
GREAT MANITOULIN I.
GEORGIAN BAY
Portland
San Francisco
Pekin
Hakodate
Lyon
Marseille
Madrid
Lisbon
CHARLESTON
N. CAR.
TENNESSEE
VIRGINIA
KENTUCKY
INDIANA
OHIO
MISSOURI
ILLINOIS
IOWA
WISCONSIN
MICHIGAN
MINNESOTA

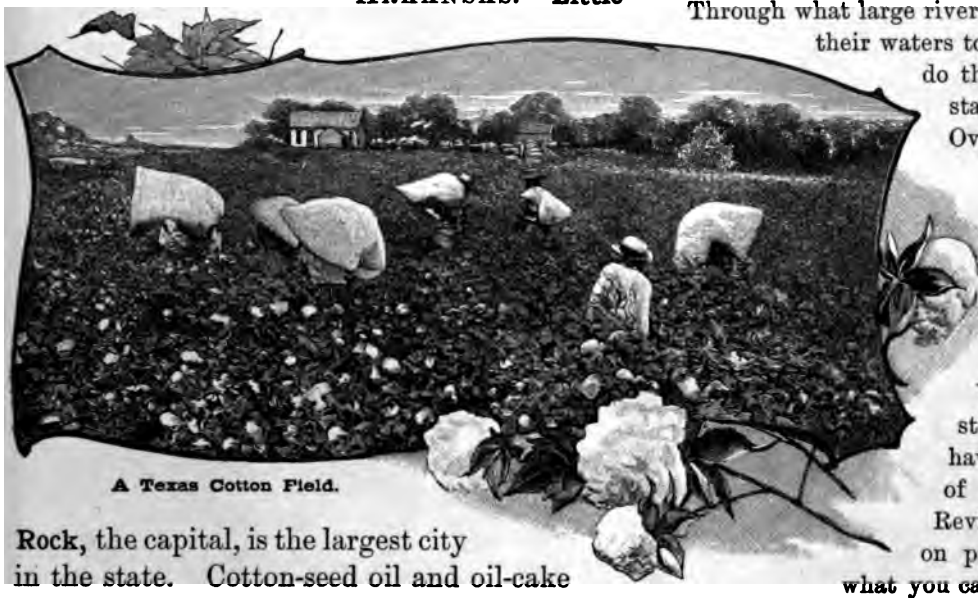
Dallas and Fort Worth are trade centers for the rich farming and grazing districts of the Texas prairies.

San Antonio is famous as the scene of the battle of the *Alamo*, — a building in which a few brave Americans fell while fighting for the independence of Texas from Mexico.

Galveston, on an island at the entrance to Galveston bay, is the chief port of Texas, and one of the leading cotton ports of the Union.

Austin, on the Colorado river, is the capital.

ARKANSAS. **Little Rock**, the capital, is the largest city in the state. Cotton-seed oil and oil-cake are made here.



A Texas Cotton Field.

Fort Smith, above Little Rock on the Arkansas river, is a center of trade for the western part of the state.

OKLAHOMA. This is the youngest of the territories and is thinly settled. **Oklahoma** and **Guthrie** are the chief towns. The latter is the capital.

INDIAN TERRITORY. This territory was set apart as a home for several Indian tribes. Some of the Indians have good houses and schools, and live in towns like those of the white men. **Ardmore** is an important commercial center. **Tahlequah** is the capital of the Cherokee nation.

135. Central States, — Eastern Section.

Name the states of this group. What group of states lies next east of the Central states? What group is on the south? Name the lakes along the northern boundary. Which of these states lie along the Mississippi river? Along the Ohio river?

Which state in this group has the longest lake-front? Name the lakes that border on Michigan. Which states surround lake Michigan?

What does the map on page 61 show about the surface of this group of states? Locate the Cumberland mountains. Of what highland are they a part? Where is the Mineral range?

Through what large river do the Great Lakes send their waters to the sea? To what gulf do the largest rivers of these states flow?

Over what waters does a steamer pass in going from Chicago to Cleveland? Where is St. Marys strait? Locate the Illinois river. Between what states does the Ohio river flow?

What other groups of states that you have studied have about the same kind of seasons as this group? Review the text and maps on pages 71 to 78, and tell what you can about the products of these states. Which quarter of the United States has the largest cities? *See map on page 68.*

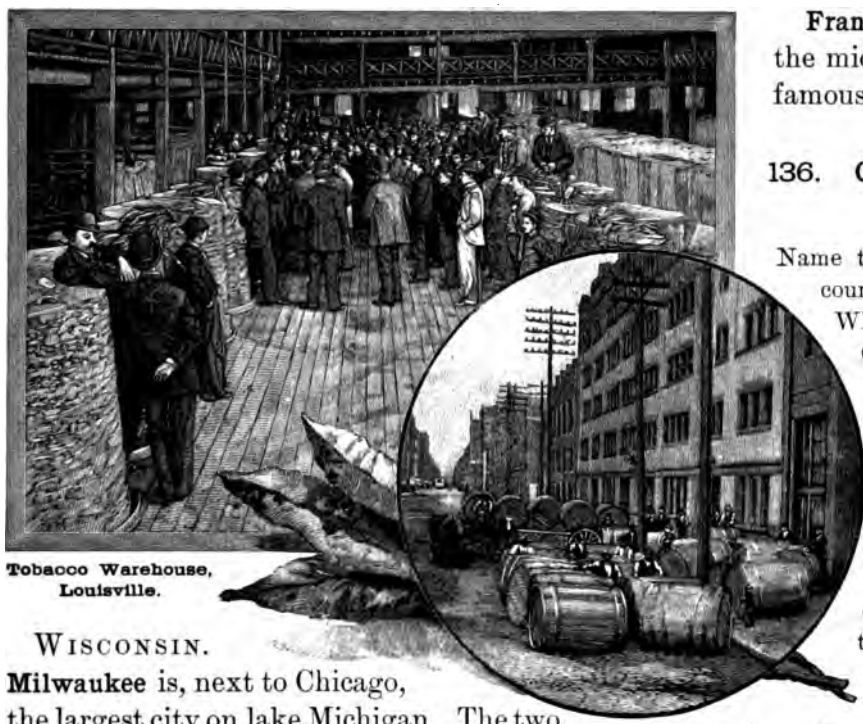
The Central states consist largely of level or gently rolling prairies, and form the best farming and grazing region in the Union. Corn and wheat are the principal grains raised here.

Near the southern shore of lake Superior are the richest iron mines known, and the copper mines of the same region have only one rival, — near Butte (Montana).

The upper lake district is in the soft-wood belt stretching westward from Maine; hard-wood forests are found a little farther south.

The states in the valley of the Ohio yield soft coal and natural gas.

CENTRAL STATES
EASTERN SECTION
SCALE OF MILES
0 20 40 60 80 100 120
Longitude West from Greenwich
93 91 89 87 85 83 81
DOMINION OF CANADA
UNITED STATES
GULF OF MEXICO
ATLANTIC OCEAN
PACIFIC OCEAN
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ERIE
ISLE ROYAL
MICHIPICOTEN I.
APOSTLES IS.
Duluth
Superior
Washburn
Ashland
Houghton
Ontonagon
Marquette
Negaunee
Escanaba
Iron River
Iron Mountain
Rhinelander
Antigo
Merrill
Wausau
Stevens Point
Marshfield
Eau Claire
Chippewa Falls
Menomonie
Hudson
Black River Falls
Necedah
Tomah
Sparta
La Crosse
Baraboo
Prairie du Chien
Dubuque
Galena
Freeport
Rockford
Belvidere
Elgin
Aurora
Dixon
Sterling
Rock Island
Moline
Kewanee
Galesburg
Monmouth
Peoria
Pekin
Canton
Macomb
Beardstown
Quincy
Jacksonville
Springfield
Decatur
Champaign
Danville
Lincoln
Bloomington
Normal
Litchfield
Pana
Alton
East St. Louis
St. Louis
Belleville
Centralia
Mt. Carmel
Carmi
Mt. Vernon
Murphysboro
Cairo
Paducah
Metropolis
Mayfield
Hickman
Fulton
Hopkinsville
Russellville
Bowling Green
Franklin
Glasgow
Mammoth Cave
Somerset
Burbourville
Williamsburg
Middlesboro
Earlington
Princeton
Owensboro
Henderson
Evansville
Vincennes
Olney
Effingham
Terre Haute
Paris
Charleston
Mattoon
Greencastle
Brazil
Franklin
Bloomington
Columbus
Lawrenceburg
Seymour
Madison
Mitchell
Jeffersonville
Huntingburg
New Albany
Cloverport
Elizabethtown
Lebanon
Danville
Richmond
Nicholasville
Winchester
Lexington
Paris
Mt. Sterling
Frankfort
Louisville
Shelbyville
Carrollton
Cynthiana
Maysville
Ashland
Portsmouth
Ironton
Gallipolis
Chillicothe
Jackson
Wellston
Marietta
Nelsonville
Athens
Zanesville
Cambridge
Bellaire
Martins Ferry
Steubenville
Wheeling
Charleston
Newport
Covington
Cincinnati
Dayton
Hamilton
Middletown
Springfield
Xenia
Circleville
Washington
Columbus
Newark
Lancaster
Delaware
Mt. Vernon
Piqua
Troy
Sidney
Urbana
Richmond
Greenville
Anderson
Muncie
Lebanon
Frankfort
Lafayette
Kokomo
Logansport
Wabash
Huntington
Bluffton
Marion
Portland
Fort Wayne
Warsaw
Plymouth
Kankakee
Streator
Ottawa
Peru
Braidwood
Valparaiso
Hammond
Laporte
South Bend
Elkhart
Goshen
Kendallville
Defiance
Michigan City
Chicago
Joliet
Aurora
Elgin
Niles
St. Joseph
Three Rivers
Coldwater
Hillsdale
Adrian
Ypsilanti
Ann Arbor
Wyandotte
Detroit
Toledo
Fremont
Fostoria
Findlay
Tiffin
Sandusky
Norwalk
Akron
Youngstown
Alliance
Salem
Canton
Massillon
Wooster
Mansfield
Galion
Marion
Bucyrus
Lima
Van Wert
Kenton
Cleveland
Elyria
Oberlin
Warren
Ashtabula
Painesville
Lorain
Kalamazoo
Battle Creek
Jackson
Marshall
Benton Harbor
Holland
Grand Haven
Grand Rapids
Allegan
Hastings
Charlotte
Lansing
Pontiac
Mt. Clemens
Port Huron
Flint
Owosso
Saginaw
Bay City
W. Bay City
Mt. Pleasant
Big Rapids
Muskegon
Greenville
St. Johns
Ludington
Manistee
Cadillac
Au Sable
Alpena
Kalkaska
Traverse City
Petoskey
Cheboygan
St. Ignace
Sault Ste. Marie
Manistique
Pictured Rocks
Keweenaw Pt.
Keweenaw Bay
Red Jacket
Hurley
Ironwood
Bessemer
Menasha
Neenah
Appleton
Kaukauna
Oshkosh
Fond du Lac
Sheboygan
Manitowoc
Green Bay
Berlin
Beaver Dam
Watertown
Oconomowoc
Waukesha
Whitewater
Janesville
Beloit
Racine
Kenosha
Waukegan
Mineral Point
Platteville
Monroe
Fort Atkinson
Madison
Milwaukee
Oconto
Marinette
Menominee
Rhinelander
Ontario
Portland
Hakodate
Pekin
San Francisco
Lyon
Marseille
Madrid
Lisbon
Charleston
N. CAR.



Tobacco Warehouse, Louisville.

WISCONSIN. **Milwaukee** is, next to Chicago, the largest city on lake Michigan. The two ports have about the same kind of lake trade, though that of Chicago is much the larger.

Lacrosse, on the Mississippi, has a large lumber trade. **Madison** is the capital.

KENTUCKY. **Louisville** is a railroad center and one of the chief tobacco markets in the world.

Log Boom, Wisconsin.

Covington and **Newport** are thriving cities on the Ohio river, opposite Cincinnati.

Frankfort is the capital. It is in the midst of a fine grazing country, famous for its horses.

136. Central States,—Western Section.

Name the states of this group. What country lies north of this section? What group of states is on the east? On the south?

What does the map on page 61 show about the surface of this section of the Central states? What states border on lake Superior? Which states of this group lie along the Mississippi river? Name three states crossed by the Missouri river; two that lie along the west bank of this river. Across which state does the Platte river flow? What two rivers unite at Kansas City?

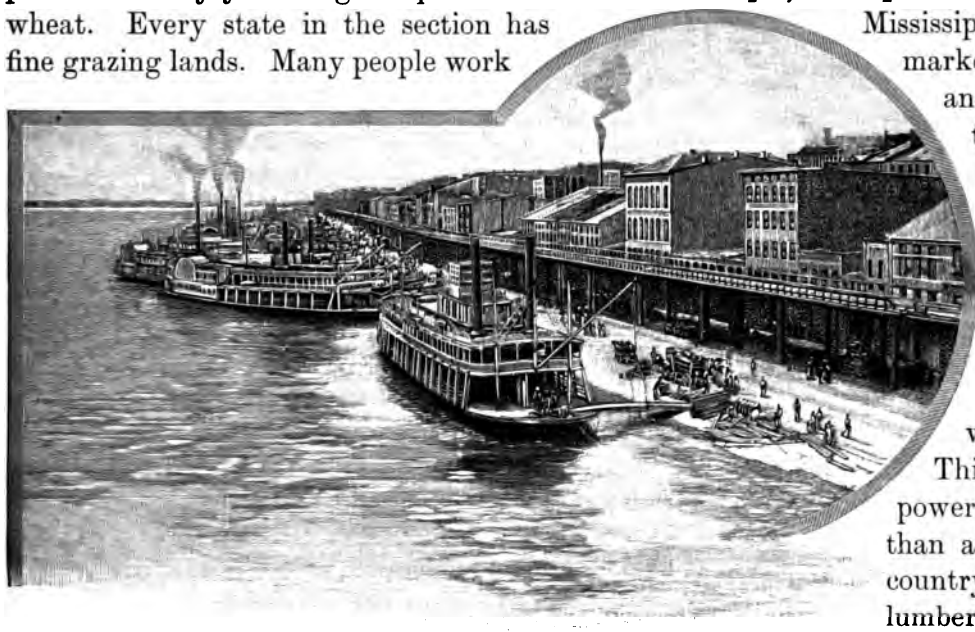
Locate the Black hills; Ozark mountains. Review the maps and text on pages 71 to 78, and tell what you can about the seasons and products of this group of states.

Whaleback Shipyard, Superior, Wis.

Which portion of this group of states has the most people? *See map on page 68.*

CENTRAL STATES
WESTERN SECTION
SCALE OF MILES
DOMINION OF CANADA
UNITED STATES
MEXICO
GULF OF MEXICO
PACIFIC OCEAN
ATLANTIC OCEAN
Longitude West from Greenwich
WINNIPEG
Pembina
Grafton
Devils Lake
Grand Forks
Crookston
Hillsboro
Moorhead
Fargo
Valley City
Jamestown
Mandan
BISMARCK
Dickinson
Lisbon
Wahpeton
Ellendale
Aberdeen
Fergus Falls
Alexandria
Little Falls
Brainerd
Cloquet
Duluth
Minneapolis
St. Paul
St. Cloud
Stillwater
Hastings
Lake City
Wabasha
Northfield
St. Peter
Faribault
Winona
Rochester
Owatonna
Mankato
New Ulm
Brookings
Watertown
Millbank
Huron
PIERRE
Deadwood
Madison
Mitchell
Sioux Falls
Canton
Scotland
Chadron
Yankton
Vermillion
Lemars
Cherokee
Sioux City
Elk Pt.
Norfolk
Albert Lea
Austin
Mason City
Ft. Dodge
Cedar Falls
Waterloo
Independence
Dubuque
Maquoketa
Marion
Lyons
Clinton
Davenport
Rock Island
Muscatine
Washington
Fairfield
Mt. Pleasant
Burlington
Ft. Madison
Keokuk
Cedar Rapids
Marshalltown
Boone
Grinnell
Iowa City
What Cheer
DES MOINES
Atlantic
Council Bluffs
S. Omaha
Omaha
Wahoo
David City
Columbia
Plattsmouth
LINCOLN
Nebraska City
Red Oak
Creston
Chariton
Oskaloosa
Ottumwa
Centerville
Clarinda
Maryville
Trenton
Chillicothe
Brookfield
Hannibal
Louisiana
Moberly
Mexico
Columbia
Fulton
St. Charles
Lexington
Boonville
Sedalia
Warrensburg
JEFFERSON CITY
St. Louis
Ste. Genevieve
Pilot Knob
Cape Girardeau
Springfield
Carthage
Joplin
Neosho
Pittsburg
Nevada
Rich Hill
Ft. Scott
Parsons
Independence
Winfield
Arkansas City
Wellington
Wichita
Eldorado
Emporia
Newton
Hutchinson
McPherson
Salina
Abilene
Manhattan
Junction
Concordia
Horton
Atchison
Leavenworth
Kansas City
St. Joseph
TOPEKA
Lawrence
Ottawa
Osage
Paola
Clinton
Beatrice
Fairbury
Wymore
Falls City
Crete
Hastings
Holdrege
Kearney
Grand Island
York
North Platte
Chadron
Deadwood
Hot Springs
Rapid City
Pilot Knob
GUTHRIE
TAHLEQUAH
INDIAN TERRITORY
ARKANSAS
TEXAS
NEW MEXICO
COLORADO
KANSAS
NEBRASKA
DAKOTA
MONTANA
MINNESOTA
IOWA
MISSOURI
WISCONSIN
MICHIGAN
LAKE SUPERIOR
ISLE ROYALE
HUNTERS I.
Rainy Lake
Rainy R.
Red L.
Vermilion L.
Cass L.
Itasca L.
L. Winnibigoshish
Leech L.
L. Traverse
Big Stone L.
Mississippi R.
Missouri R.
Minnesota R.
Red R.
Red Cedar R.
Wisconsin R.
Mississippi R.
Illinois R.
Des Moines R.
Cedar R.
Iowa R.
Skunk R.
Grand R.
Platte R.
Niobrara R.
Elkhorn R.
Loup R.
Republican R.
Smoky Hill R.
Arkansas R.
Cimarron R.
Canadian R.
Neosho R.
Osage R.
Gasconade R.
Big Blue R.
Nemaha R.
Kansas R.
Missouri R.
Pomme de Terre R.
Big Sioux R.
Vermillion R.
Cannon Ball R.
Little Missouri R.
Grand R.
Cheyenne R.
White R.
Bad Lands
Black Hills
Coteau des Prairies
Coteau du Missouri
Assiniboine R.
Souris or Mouse R.
Red R.
Rainy R.
St. Croix R.
Kettle R.
Pine R.
Chippewa R.
Rock R.
Big Blue R.
Little Blue R.
Platte R.
Loup Fork
Elkhorn R.
Niobrara R.
Cheyenne R.
Big Sioux R.
Vermillion R.
Cannon Ball R.
Little Missouri R.
Grand R.
Portland
Paris
Rome
Lisbon
Madrid
Pekin
San Francisco

The western part of this section suffers from drouth, but nearly all other parts, except the forest belt of the north, consist of fertile prairies. They yield large crops of corn and wheat. Every state in the section has fine grazing lands. Many people work in the lumber district of the north. Some of the states have mines of iron, lead and zinc.



Levee at St. Louis.

MISSOURI. **St. Louis** is the largest center of trade west of the Mississippi river. The states along this river below St. Louis send cotton, tobacco and sugar to this great market. The Western plains and the prairies supply cattle and grain. Railroad trains from St. Louis reach nearly every part of the prairies and plains, carrying flour, clothing, tools, machines and many other articles.

Kansas City is one of the great railroad centers of the Union, and has a large trade with the farming area round about, especially in farm tools. Across the Missouri is a twin city of the same name. **Jefferson City** is the capital.

IOWA. **Des Moines,** the capital, and **Sioux City** are large cities in the prairie region, and are markets for grain, cattle and dairy products.

Dubuque, Davenport and other cities on the Mississippi river are lumber markets. The great river and its branches place them within easy reach of the northern forests.

MINNESOTA. **Minneapolis** is near immense wheat fields; a large part of the state is also covered with forests of pine. This city has good water power. It makes more flour than any other city in our country, and is the largest lumber market in this group of states.

St. Paul marks the limit to which steamboats can ascend the Mississippi, and is also a railroad center. It is a supply city for a large farming and lumbering region. This city is also the capital of the state.

Duluth is on a good harbor at the west end of lake Superior, and handles much of the wheat raised on the Red river prairies.

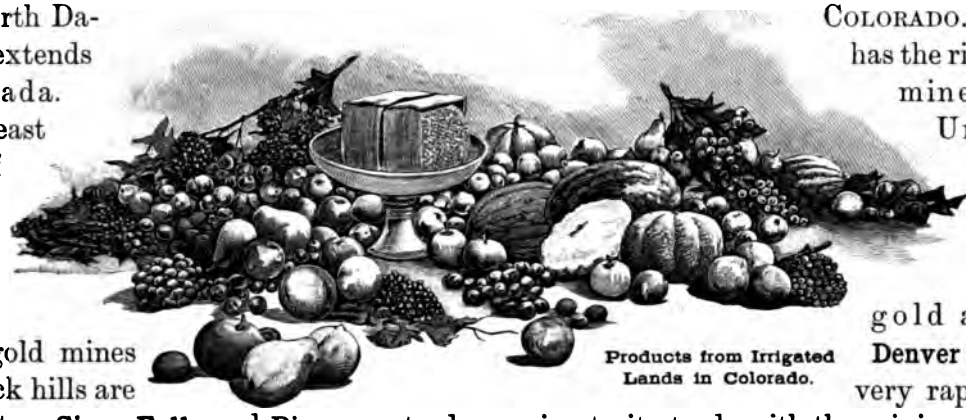
A Prairie Cornfield.

NORTH DAKOTA. Part of the famous Red

river wheat district is in this state. Large areas also afford good grazing. **Fargo** and **Bismarck,** the capital, are centers of trade.

Davenport, Iowa.

SOUTH DAKOTA. The northeast part of this state is in the same rich wheat belt that crosses North Dakota and extends into Canada. The southeast portion of the state is in the corn belt. Some of the rich gold mines of the Black hills are in this state. **Sioux Falls** and **Pierre** are trade centers. The latter is the capital.



Products from Irrigated Lands in Colorado.

NEBRASKA. **Omaha** is an important railroad city and river port. It has a large trade in prairie products.

Lincoln, the capital, is the chief supply city for the wheat and corn district of southeast Nebraska.

KANSAS. **Kansas City** is the largest meat market west of Chicago. Each year thousands of cattle are sent from the Western plains and from Texas to fatten in the corn area of Kansas.

Topeka, the capital, is a supply city for a large part of the state. Many railroad lines meet in Topeka.

137. Southwestern States.

The mountain ranges of this group have very rich gold and silver mines. The plains east of the mountains support many cattle. The valleys west of the Sierra Nevada and Coast range produce great quantities of wheat and fruit. The western slopes of these mountains have heavy rainfall and supply lumber.

The region between the Rocky mountains and the Sierra Nevada is thinly settled, except near Great Salt lake and near the gold and silver mines.

COLORADO. This state has the richest silver mines in the Union, and takes high rank also in the output of gold and lead. **Denver** has had a very rapid growth, owing to its trade with the mining districts of the Rocky mountains and the cattle ranches of the plains. It is the capital of the state.

Stockyards, Kansas City.

Pueblo has large works for separating metals, such as silver, lead and iron, from the ores.

NEW MEXICO. Silver mining and cattle raising are the chief industries in this territory. Grains are raised in the river valleys.

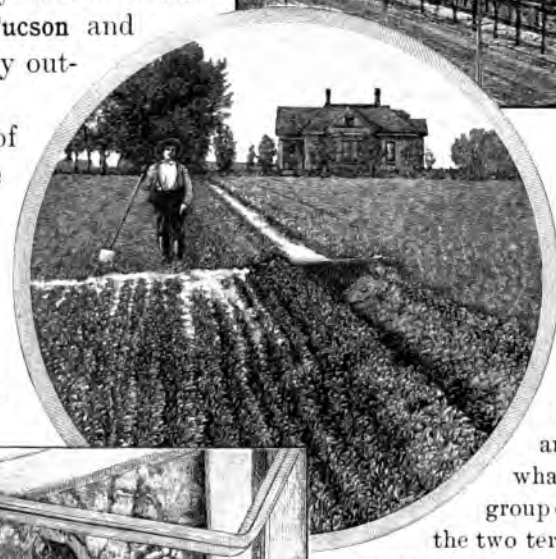
Santa Fe, the capital, is the second oldest town in the United States. Supplies for the mines and ranches are bought chiefly in Santa Fe and **Albuquerque.**

ARIZONA. This territory has rich mines of copper and silver. **Tucson** and **Phenix,** the capital, supply outfits for miners.

UTAH. Utah is one of the leading states in the mining of silver; fruits, grain and vegetables are raised along the small streams where the land can be irrigated. **Salt Lake City** and **Ogden** are the principal centers of supply for the mining and farming districts. The former is the capital and is famous as the home of the Mormon church.

NEVADA. This state is noted for its gold and silver mines.

Virginia and **Carson City,** the capital, are the chief mining centers.



▲ Colorado Silver Mine

CALIFORNIA. **San Francisco** is the chief city of the Pacific coast. It has one of the largest

Mormon Temple and Tabernacle.

and most beautiful harbors in the world. Nearly all the foreign trade of the Pacific states passes through this port.

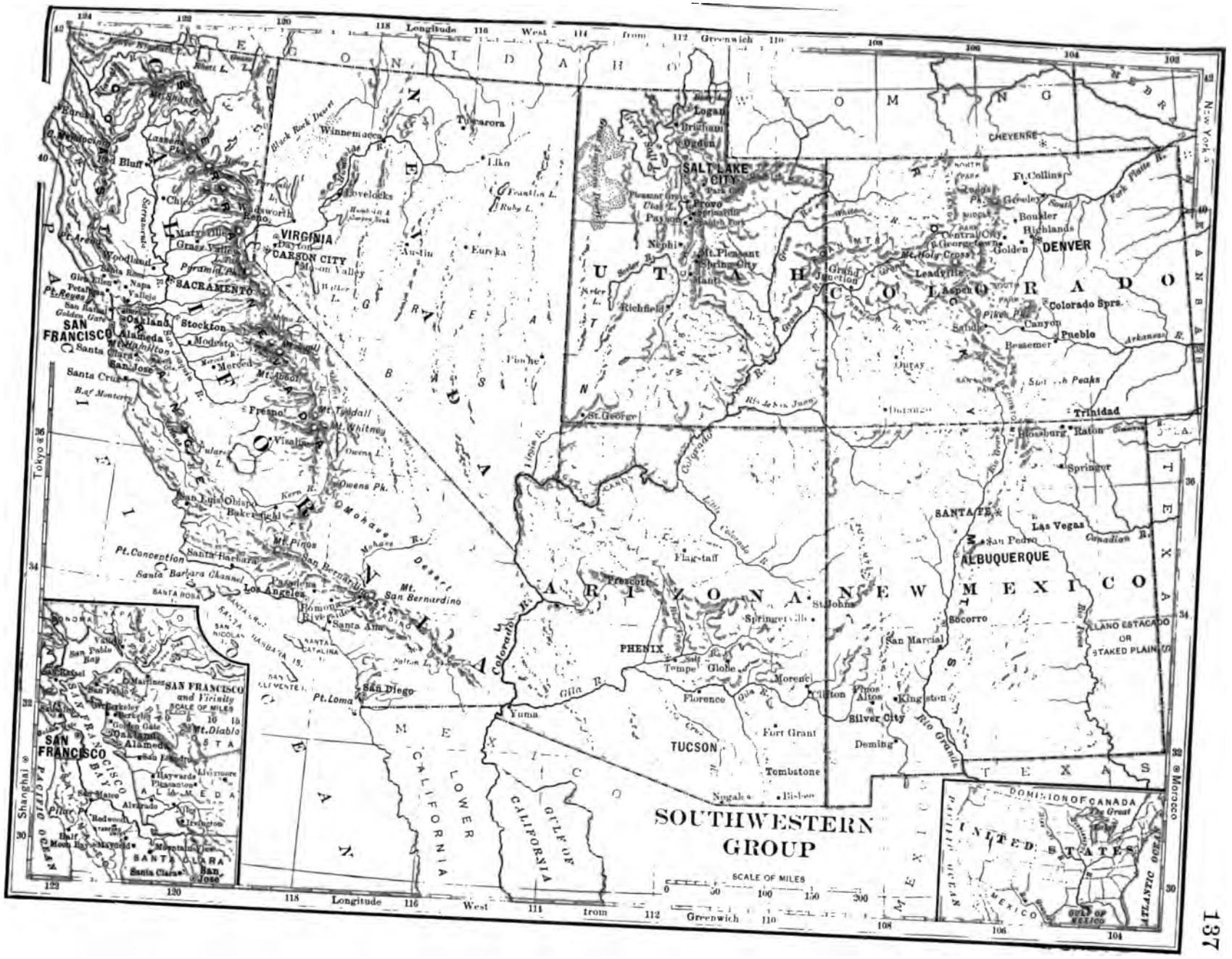
(*Continued on page 138.*)

MAP STUDIES. Name the states and territories of this group. In what part of our country is this group of states and territories? Name the two territories that border on Mexico. *See the note on page 126.* What ocean is west of California? Describe the surface of these states and territories. *See map on page 60.* Locate the Sierra Nevada; Cascade mountains; Coast range; Wasatch mountains; Grand canyon (*see page 59*); Great Salt lake.

What state and territory of this group are crossed by the Rocky mountains? Where is the Great Basin? What have you learned about it? Where is the Mohave desert? Locate Mt. Whitney; Mt. Shasta; Pikes peak.

What two rivers drain the great valley of California and send their waters to San Francisco bay? Where is the Golden Gate? Describe the course of the Colorado river.

Review the maps and text on pages 33, 34 and 71 to 78, and tell what you can about the seasons and products of this group. What parts of the area are most thickly settled? *See page 68.*


SOUTHWESTERN GROUP
SCALE OF MILES
0 50 100 150 200
Longitude West from Greenwich
SAN FRANCISCO and Vicinity
SCALE OF MILES
DOMINION OF CANADA
UNITED STATES
GULF OF MEXICO
ATLANTIC OCEAN
PACIFIC OCEAN
GULF OF CALIFORNIA
LOWER CALIFORNIA
MEXICO
ARIZONA
NEW MEXICO
UTAH
COLORADO
NEVADA
CALIFORNIA
TEXAS
SALT LAKE CITY
DENVER
SACRAMENTO
SAN FRANCISCO
VIRGINIA CITY
CARSON CITY
ALBUQUERQUE
SANTA FE
PHENIX
TUCSON
LLANO ESTACADO OR STAKED PLAINS

Many of the products of the grainfields, vineyards, fruit groves, mines and cattle ranches of California and other states of the far West are sent to San Francisco. Wheat and flour are principal exports.

The Golden Gate is the name of the entrance to San Francisco harbor or bay.

Los Angeles is the largest supply city in the famous fruit district of southern California.

Sacramento is the capital.

138. Northwestern States.

Name the states of this group. What part of our country does this group of states occupy? What country is on the north? Name all the states that border on the Pacific coast.

Describe the surface of the Northwestern states. *See map on page 60; also lesson 74.*

Locate the Cascade range. What range does it join on the south? What mountains lie between the Cascade range and the sea? Which states of this group contain parts of the Rocky mountains?

What great river breaks through the Cascade range? In what country does this river rise? What long branch comes to it from Yellowstone park? What two states are partly separated by the Columbia river? By the Snake river?

Locate Puget sound; Mt. Hood.

Review the maps and text on pages 33, 34 and 71 to 78, and tell what you can about the seasons and products of this group of states. Which part is most thickly settled? *See map on page 68.*

Orange Grove, Southern California.

This group of states resembles in its products the group on the south. It has grazing plains east of the Rocky mountains, as well as between the great ranges; barren lava plains east of the Cascade range in Oregon and along the Snake river in southwest Idaho; rich wheat fields in the valley of the Willamette river; lumber forests on the west slope of the Cascade mountains and on the Coast range. Many salmon are caught in the Columbia river.

MONTANA. This is the leading copper state in the Union; it ranks second to Colorado in the value of its silver, and also has rich gold mines.

Helena, the capital, deals largely in supplies for miners and cattle men.

Butte is the center of the copper industry of the state.

WYOMING. **Cheyenne**, the capital, is a noted market for cattle. **Laramie** also is a supply city for ranchmen.

IDAHO. This is chiefly a gold and silver mining state, but there are fertile wheat fields in the north.

Boise is the capital and center of trade.

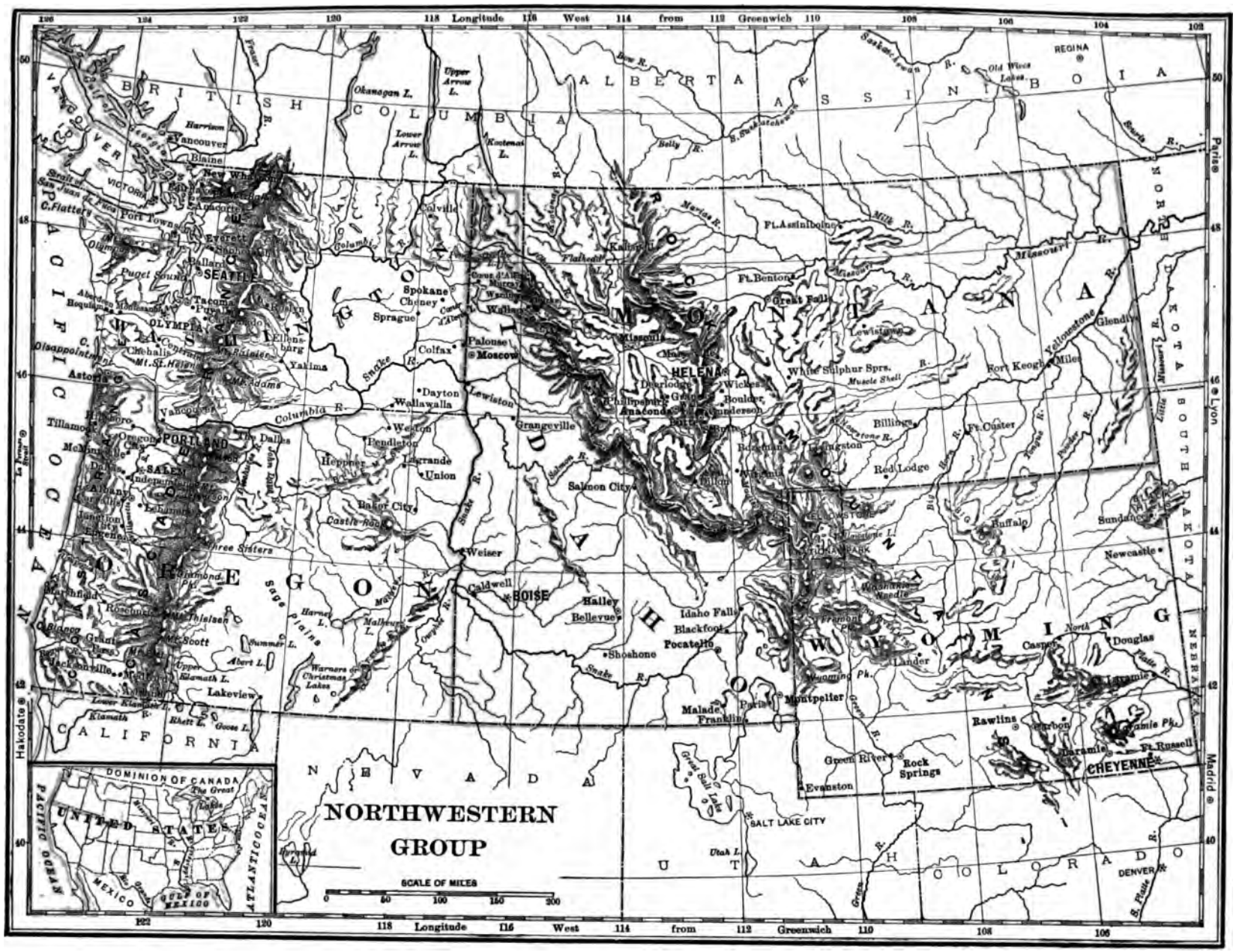
OREGON. **Portland** is the main outlet for the grain of the Willamette valley, the cattle products of the grazing plains of the state, and for much of the lumber cut on the mountain slopes.

Salem is the capital.

WASHINGTON. This state has excellent harbors on Puget sound. **Seattle** and **Tacoma**, on this sound, have an immense trade in soft-wood lumber.

Olympia is the capital.

The western slopes of the mountain ranges in the three states that border on the Pacific are open to the moist winds from the ocean; hence these slopes are forest-clad.


NORTHWESTERN GROUP
SCALE OF MILES
0 50 100 150 200
Longitude West from Greenwich
BRITISH COLUMBIA
ALBERTA
ASSINIBOIA
REGINA
VANCOUVER
VICTORIA
SEATTLE
TACOMA
OLYMPIA
SPOKANE
PORTLAND
SALEM
BOISE
HELENA
SALT LAKE CITY
DENVER
CHEYENNE
CALIFORNIA
NEVADA
UTAH
COLORADO
WYOMING
MONTANA
IDAHO
OREGON
WASHINGTON
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
DOMINION OF CANADA
UNITED STATES
MEXICO
GULF OF MEXICO
PACIFIC OCEAN
ATLANTIC OCEAN
Hakodate
Paris
Lyon
Madrid

139. Alaska.

MAP STUDIES. Where is Alaska? To what country does it belong? *See note on page 126.* What two oceans and sea partly surround Alaska? What country is on the east?

What does the map on page 54 show about the surface of Alaska? What long river flows across this territory? Locate the Pribilof islands; Bering strait; Aleutian islands; Mt. St. Elias; Mt. Logan.

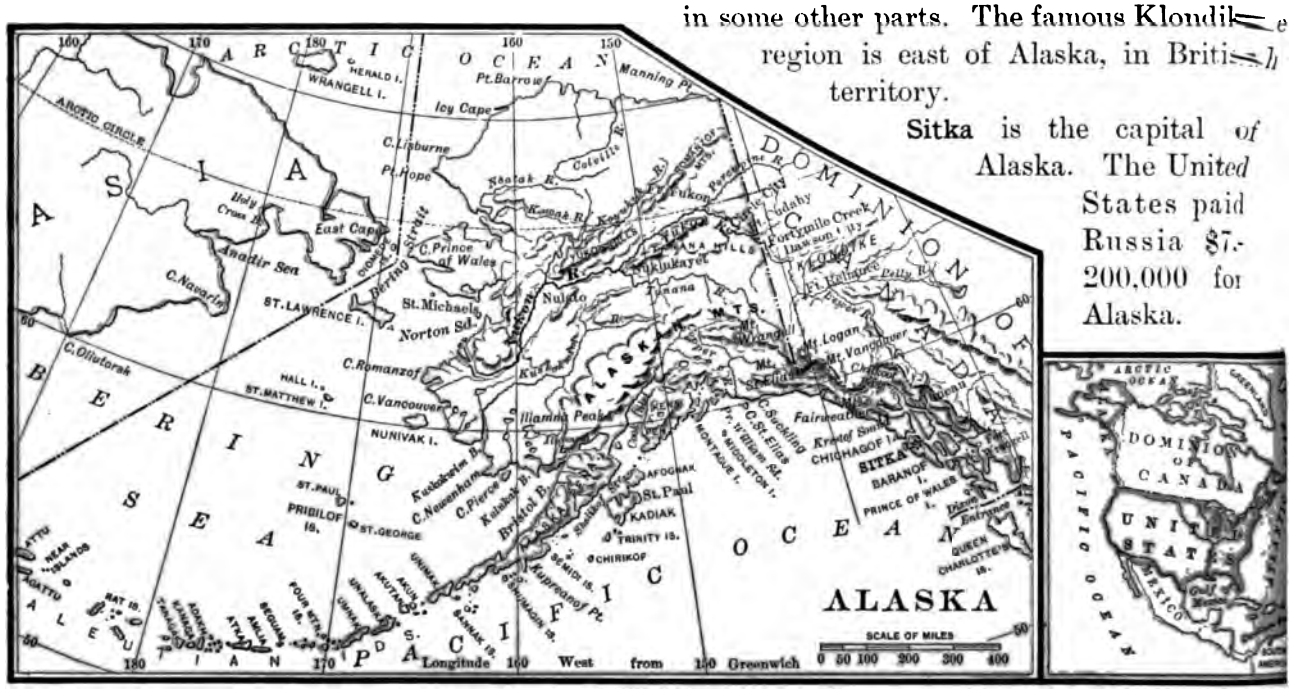
In which heat belts is Alaska? *See page 33.* Describe the seasons in these belts.

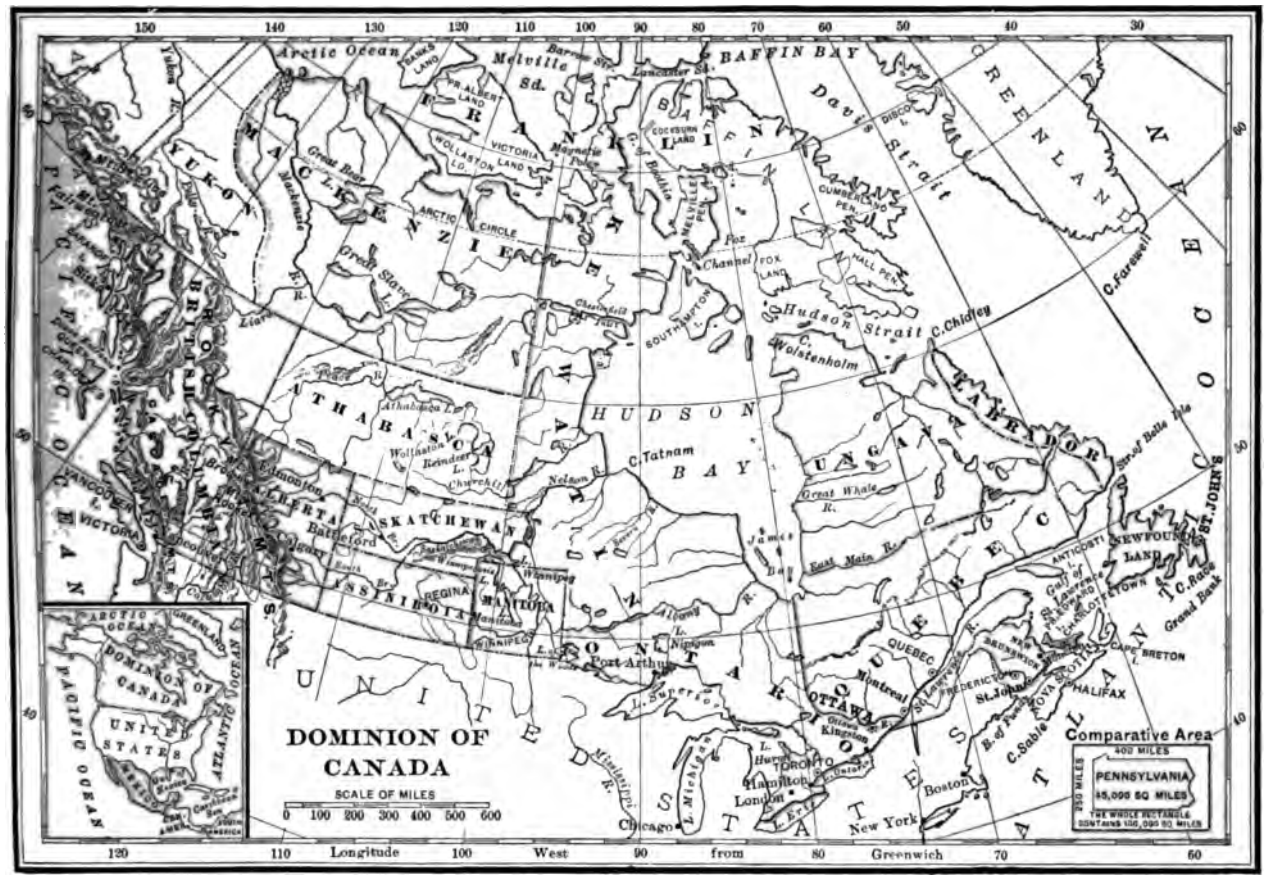
Sitka, Alaska.

ALASKA. This territory in the far north is about one sixth as large as the rest of the United States, but only a small part is warm enough for settlers. Most of the people are Indians; the others are white men and Eskimos. *See lesson 65.* The best climate is found along the southwest shore, where mild winds blow inland from over the Pacific ocean.

The rivers and shore waters yield many salmon. Fur seals are taken on the Pribilof islands. Gold is found in the region round Juneau, also in the upper Yukon valley, and in some other parts. The famous Klondike region is east of Alaska, in British territory.

Sitka is the capital of Alaska. The United States paid Russia $7,200,000 for Alaska.





140. Canada and Newfoundland.

MAP STUDIES. What oceans partly bound Canada? What country is on the south? Which of the Great Lakes border on Canada? What large bay indents the north coast? What gulf is on the east? Locate Baffin bay; Hudson strait; Davis strait; bay of Fundy; Vancouver island; Queen Charlotte's island.

What does the relief map on page 54 show about the surface of Canada? Compare with the surface of the United States. Name two mountain chains in British Columbia.

Name three large lakes that have an outlet to the sea by way of the Mackenzie river. Into what does the Peace river flow? Where is lake Winnipeg? What large river enters it from the west? From the south? *See colored map of United States.*

NOTE: — Canada consists of *provinces* and *districts*. The provinces are Nova Scotia, Prince Edward island, New Brunswick, Quebec, Ontario, Manitoba and British Columbia; the other parts, comprising even the cold Arctic regions, are divided into districts. Newfoundland, including the district of Labrador, is not a part of Canada, but all belong to Great Britain. The great islands of Greenland and Iceland belong to Denmark, a country in Europe.

What province lies north of the Great Lakes? Through which does the St. Lawrence river flow? Which province borders on the Pacific ocean? Locate Nova Scotia; Newfoundland. Between what provinces is the bay of Fundy? Where is the Klondike region? What great river drains this region?

What have you learned about the seasons and products of Canada?

Canada is almost as large as the United States, and the two countries resemble each other in surface features. Both have high mountains in the west, low mountains in the east, with great plains and prairies lying between. Both also border on the Great Lakes.

Several of the large rivers of Canada flow into the cold north region, but the St. Lawrence affords a fine water way. Steamers from the sea can ascend 1000 miles to Montreal.

The portion of the provinces of Quebec and Ontario lying along lakes Huron, Erie and Ontario and reaching down the river to the city of Quebec has great soft-wood forests, pastures and grainfields. The province of Manitoba is famous for its wheat.

Canada exports wheat, lumber and cattle. Many fish are caught on the Grand banks south of Newfoundland, and are sent to other countries. The chief cities in the two great provinces of Quebec and Ontario are **Montreal** and **Quebec,** on the St. Lawrence river, and **Toronto,** on lake Ontario. **Ottawa** is the capital of Canada. **Halifax** and **St. John's** send many codfish to our country. The leading city in British Columbia is **Victoria,** on Vancouver island. Klondike is a gold-bearing region in the upper Yukon basin. It is so far north and so shut off from the sea by mountains that the climate is very severe. **Dawson City** is in the heart of the mining region. *See map on page 140.*

141. Mexico, Central America, West Indies.

MAP STUDIES. Between what two countries does the Rio Grande flow? Name the large bodies of water that border on Mexico. What peninsula forms the northwest part of this country? The southeast part? What does the relief map on page 54 show about the surface of Mexico? Locate the Sierra Madre; the volcano of Popocatepetl.

In what heat belts is Mexico? *See page 33.* What kind of seasons has it? Name some of the products of these belts.

The five small countries of Guatemala, Salvador, Honduras, Nicaragua and Costa Rica form Central America; between what sea and ocean do they lie? Where is lake Nicaragua?

Which is the largest island of the West Indies? Next in size? What ocean, gulf and sea are on three sides of the West Indies? Where are the Bahama islands? Where is Puerto Rico? Jamaica?

MEXICO. During the summer, moist winds blow inland over Mexico, from the gulf on the east. These give rainfall to the greater part of the plateau and its eastern slope. The region west of the Sierra Madre is dry and barren. It is too far south to be reached by the westerly winds of the cool belt.

Many cattle are raised in Mexico. The mountains yield large quantities of silver ore. The narrow coastal plains on the east are low and unhealthful.

Mexico, the capital, is in the plateau far above the level of the sea. **Vera Cruz,** the chief port, is on the low sandy plain.

A large part of the foreign trade of Mexico is with the United States.

CENTRAL AMERICA. The small countries of Central America are so near the equator that they have hot or warm days all the year. They produce coffee, fruits and rubber (a gum of certain trees).

The white people here, as in Mexico, are mostly of Spanish descent, but there are far more Indians than white men.

WEST INDIES. The West Indies are the islands that partly inclose the gulf of Mexico and the Caribbean sea. Among their leading products are sugar, tobacco and coffee.

Cuba is the largest of the islands. **Havana,** the chief seaport in the West Indies, is a great sugar and tobacco market.

The island of Haiti contains two small countries, Haiti and Santo Domingo. The western half of the island is settled chiefly by Negroes; the eastern half is settled by white people and Negroes.

Jamaica and the Bahama islands belong to Great Britain. There are many Negroes, as well as British settlers, on the islands.

Among the other important islands are Puerto Rico and the groups known as the Leeward and Windward islands.

142. Countries and Cities.

MAP STUDIES. What oceans border on Europe? Name three large seas on the south; one on the north. Name five large natural features that lie between Europe and Asia. What three continents surround the Mediterranean sea? What is the outlet of this sea called?

A Norwegian.

Which half of Europe consists largely of highlands? Of plains? *See page 92.* What countries are partly bounded by the Pyrenees? By the Caucasus and Ural mountains? By the Alps? By the Kiolen mountains? By the Karpathian mountains?

Grazing Scene in Holland.

What countries border on the North sea? Baltic sea? Gulf of Bothnia? Bay of Biscay? Adriatic sea? Ægean sea? What great partly bound Russia? Where is the Irish The strait of Dover? The strait of Gibra *See lesson 107.*

A German.

Where does the Volga river rise? Into sea does it flow? In what general dire does the Danube river flow and into what Where is the Seine r The Thames? The Po? Dnieper? The Rhine? Rhone? The Elbe? *map on page 149.*

Review lessons 106 to 110. Almost all the people of Europe belong to the white race. In the extreme north and in some other parts are some people of the yellow race. *See lesson 106; also lesson 64.*

Scotch Piper.

What heat belts cros rope? *See page 33.* effect do the winds from the Gulf stream produce western Europe? *See 34.* Which part of E is in the warm belt?

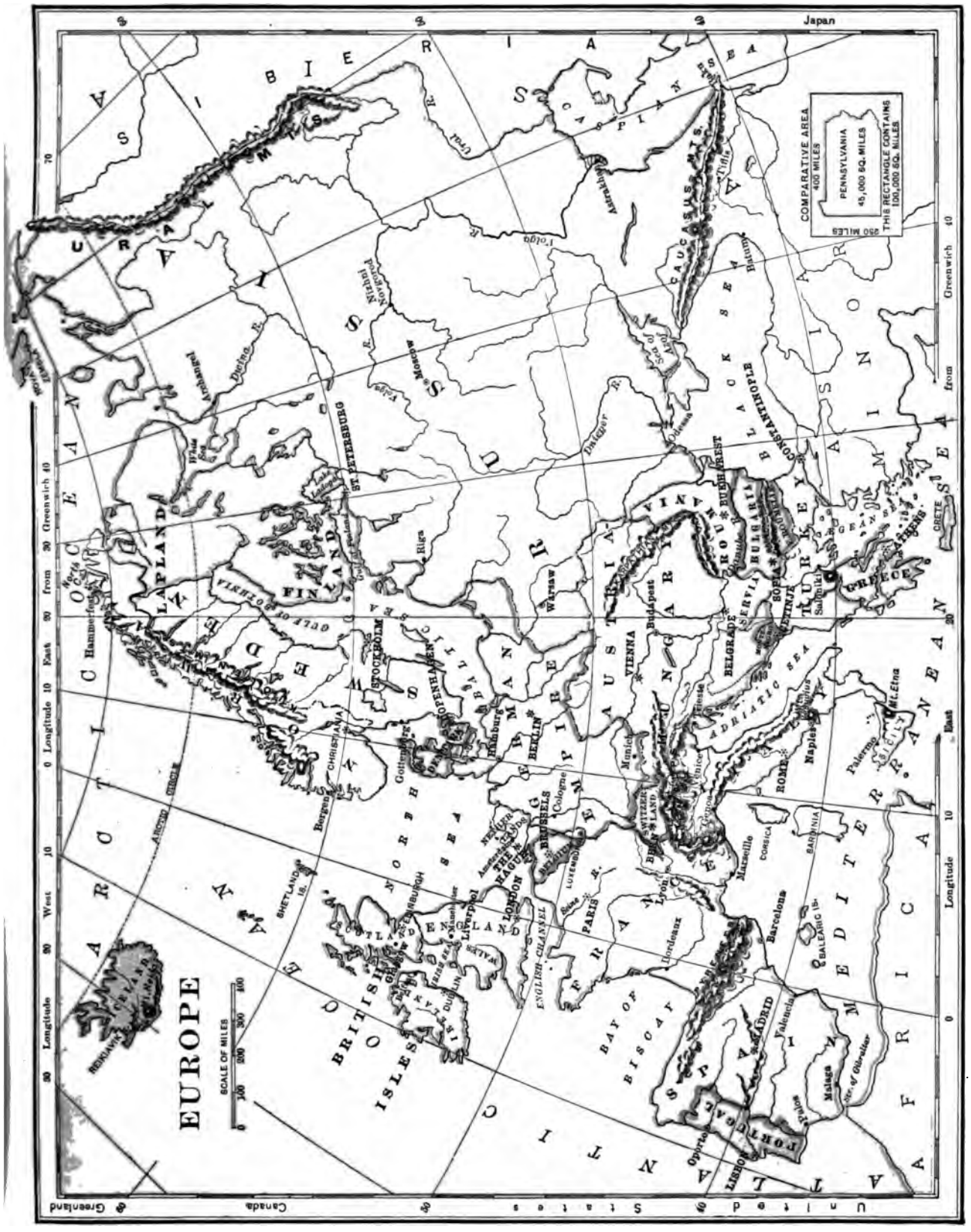
BRITISH ISLES. In the British Isles are vast beds of coal and iron. Near these many great workshops have been built.

The people of the British Isles weave into cloth fully one third of the raw cotton and wool raised in the world. They also manufacture nearly one third of the iron and steel. Their ships carry on one third of the ocean commerce.

The United States sends to the British Isles cotton, grain, meat, tobacco, copper and many other products.

The British Isles send to the United States iron and steel goods, cotton and woolen cloth, tin and tin-plate, silk and many other articles from the workshop.

A Scene near Venice.


EUROPE
SCALE OF MILES
0 100 200 300 400
COMPARATIVE AREA
400 MILES
PENNSYLVANIA
45,000 SQ. MILES
THIS RECTANGLE CONTAINS
100,000 SQ. MILES
250 MILES
Japan
Greenland
Canada
United States
Longitude
Greenwich
from
East
West
Arctic Ocean
Atlantic Ocean
Mediterranean Sea
Black Sea
Caspian Sea
Adriatic Sea
Aegean Sea
Baltic Sea
North Sea
Bay of Biscay
Gulf of Bothnia
Sea of Azof
Sea of Marmora
Sea of Gibraltar
Ural Mts.
Caucasus Mts.
Lapland
Finland
Sweden
Norway
Denmark
Germany
Austria
Hungary
Turkey
Greece
Spain
Portugal
Italy
Sicily
Sardinia
Corsica
Crete
Balearic Is.
Shetland Is.
Iceland
Ireland
Scotland
Wales
Ireland
Russia
Poland
Bulgaria
Serbia
Rumania
Turkey
Asia
Minor
Africa
Arctic Circle
Hammerfest
Bergen
Christiania
Gottenburg
Stockholm
Copenhagen
Hamburg
Berlin
Cologne
Brussels
Hague
London
Liverpool
Manchester
Dublin
Paris
Lyon
Marseille
Bordeaux
Madrid
Valencia
Barcelona
Malaga
Palos
Oporto
Lisbon
Munich
Vienna
Budapest
Trieste
Venice
Genoa
Rome
Naples
Palermo
Mt. Etna
Salonika
Athens
Constantinople
Odessa
Batum
Astrakhan
Moscow
Nizhni Novgorod
Riga
Warsaw
Dnieper R.
Volga R.
Ural R.
Dwina R.
Archangel
White Sea
Lake Ladoga
St. Petersburg
Gulf of Finland
Sea of Azof
Tiflis
Sarajevo
Belgrade
Bucharest
Sofia
Cetinje
Rome
Mt. Etna
Sicily
Sardinia
Corsica
Balearic Is.
Gulf of Bothnia
Bergen
Reikiavik
Iceland
Greenland

London, on the Thames river, is the capital of the British Empire. It is the chief seaport and railroad center of the British Isles and is the largest city in the world.

Peat Moss.

Piling Peat.

Top of Mt. Snowdon.

The greater part of the trade of the United States with England is by way of **Liverpool,** a large port on the Mersey river. London, Liverpool and New York have the largest ocean trade of any three cities in the world.

Among the other great cities of England are **Manchester,** having the largest cotton mills in the world; **Birmingham** and **Sheffield,** noted for all kinds of iron goods; **Bradford,** well known for its woolen goods.

Scotland is noted for its iron and steel ships. They are built along the river Clyde, near **Glasgow.**

Edinburgh is the capital of Scotland.

The mountainous country of Wales, west of England, has rich mines of coal and iron. **Cardiff** has a large trade in these products.

Dublin is the capital of Ireland and the center of trade for the middle portion of the island. **Belfast** is noted for its fine linens, made from Irish flax.

Among the most important British possessions are: Canada, Australia, India, New Zealand, Cape Colony and other large areas in Africa.

Caledonian Canal.

FRANCE.

Only two cities in the world, London and New York, are larger than **Paris.** This city is the capital and center of trade of France. It is noted for its galleries of art,—both painting and sculpture.

The United States sends to Paris about the same kinds of goods as to the British Isles. France sends to the United States woolen and silk goods, wines and millinery.

Havre, at the mouth of the Seine river, is the port of Paris.

Lyons, on the Rhone river, is noted for its silks.

BRITISH ISLES
SCALE OF MILES
0 10 20 40 60 80 100 110
Canals
SHETLAND ISLANDS
and
ORKNEY ISLANDS
Same Scale
Samburgh Head
Duncansby Hd.
SCOTLAND
ATLANTIC OCEAN
NORTH SEA
HEBRIDES OR WESTERN IS.
LITTLE MINCH
THE MINCH
Gulf of the Hebrides
C.Wrath
Duncansby Hd.
Pentland Firth
Moray Firth
Kinnaird Hd.
Inverness
Aberdeen
Dundee
Firth of Tay
Firth of Forth
Stirling
Kirkcaldy
Coatbridge
Leith
EDINBURGH
Glasgow
Paisley
Kilmarnock
Greenock
Ben Lomond
Malin Hd.
Giants Causeway
Londonderry
Belfast
Belfast L.
Lough Neagh
Lurgan
Lisburn
L.Strangford
Donegal Bay
Sligo
Newry
Dundalk
Dundalk Bay
Drogheda
Howth Hd.
Dublin Bay
DUBLIN
Kingstown
Errie Hd.
ACHILL I.
Slyne Hd.
Galway
ARRAN ISLES
Kilkenny
Limerick
Shannon
Killarney
Waterford
Blackwater R.
Cork
Queenstown
Cork Harbor
C.Clear
Carnsore Pt.
St.Davids Hd.
Carmarthen Bay
Cardigan Bay
Snowdon
Menai Str
ANGLESEY I.
Liverpool
Birkenhead
Manchester
Bolton
Salford
Oldham
Blackburn
Preston
Bradford
Leeds
Hull
Mouth of the Humber
Sheffield
Nottingham
Leicester
Birmingham
Stratford-on-Avon
Norwich
Cambridge
Oxford
LONDON
West Ham
Greenwich
Croydon
Mouth of the Thames
North Foreland
Dover
Calais
Strait of Dover
Dungeness
Hastings
Brighton
Southampton
Portsmouth
ISLE OF WIGHT
Portland Bill
Plymouth
Eddystone L.H.
Land's End
SCILLY IS.
Lizard Pt.
ALDERNEY
CHANNEL IS.
GUERNSEY
SARK
JERSEY
Havre
Seine R.
Newcastle-upon-Tyne
Sunderland
Mull of Galloway
ISLE OF MAN
Morecambe Bay
Flamborough Head
IRISH SEA
ST. GEORGE'S CHANNEL
ENGLISH CHANNEL
NORTH SEA
ATLANTIC OCEAN
ARCTIC OCEAN
RUSSIA
ASIA
AFRICA
Comparative Area
RHODE ISLAND 1,250 SQ. MILES
THE WHOLE RECTANGLE CONTAINS 5,000 SQUARE MILES
Longitude West from Greenwich East
Sitka
Labrador
Copenhagen
Irkutsk
Brussels

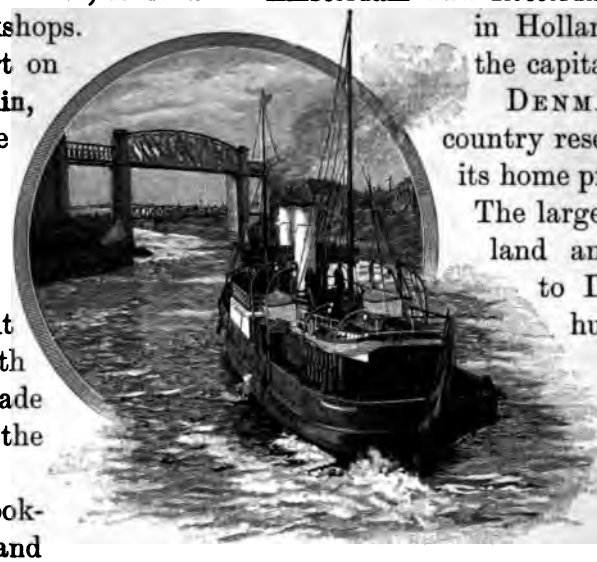
Marseille, on the Mediterranean coast, is the principal port of France.

GERMANY. Germany has large mines of iron and coal. Like Great Britain, it is a land of busy mills and workshops.

Hamburg is the chief seaport on the mainland of Europe. **Berlin,** the capital of Germany, is the center of great railway and canal systems. Its inland trade is very large.

The trade of the United States with Germany is in about the same kinds of goods as with the British Isles, but the trade with the latter is much the greater.

Leipzig is well known as a book-publishing city. **Munich** and **Dresden** have many famous paintings and statues in their art galleries.



Ship Canal, Mersey River to Manchester.

BELGIUM. This small country has coal mines and good farm lands.

Antwerp and **Brussels** are the principal cities. The latter is the capital and is noted for carpets and fine laces.

The rich islands of Java and Sumatra, southeast of Asia, belong to Holland. They produce tobacco, coffee and spices.

Amsterdam and **Rotterdam** are great ports in Holland. **The Hague** is the capital.

DENMARK. This small country resembles Holland in its home products.

The large islands of Greenland and Iceland belong to Denmark. A few hundred Eskimos and Danes live along the southwest coast of Greenland, but the interior of the island is buried under ice and snow, thousands of feet in thickness.

Iceland is not so cold as Greenland, but the climate is too cold for grain. The people of Iceland export fish, wool and eider down.

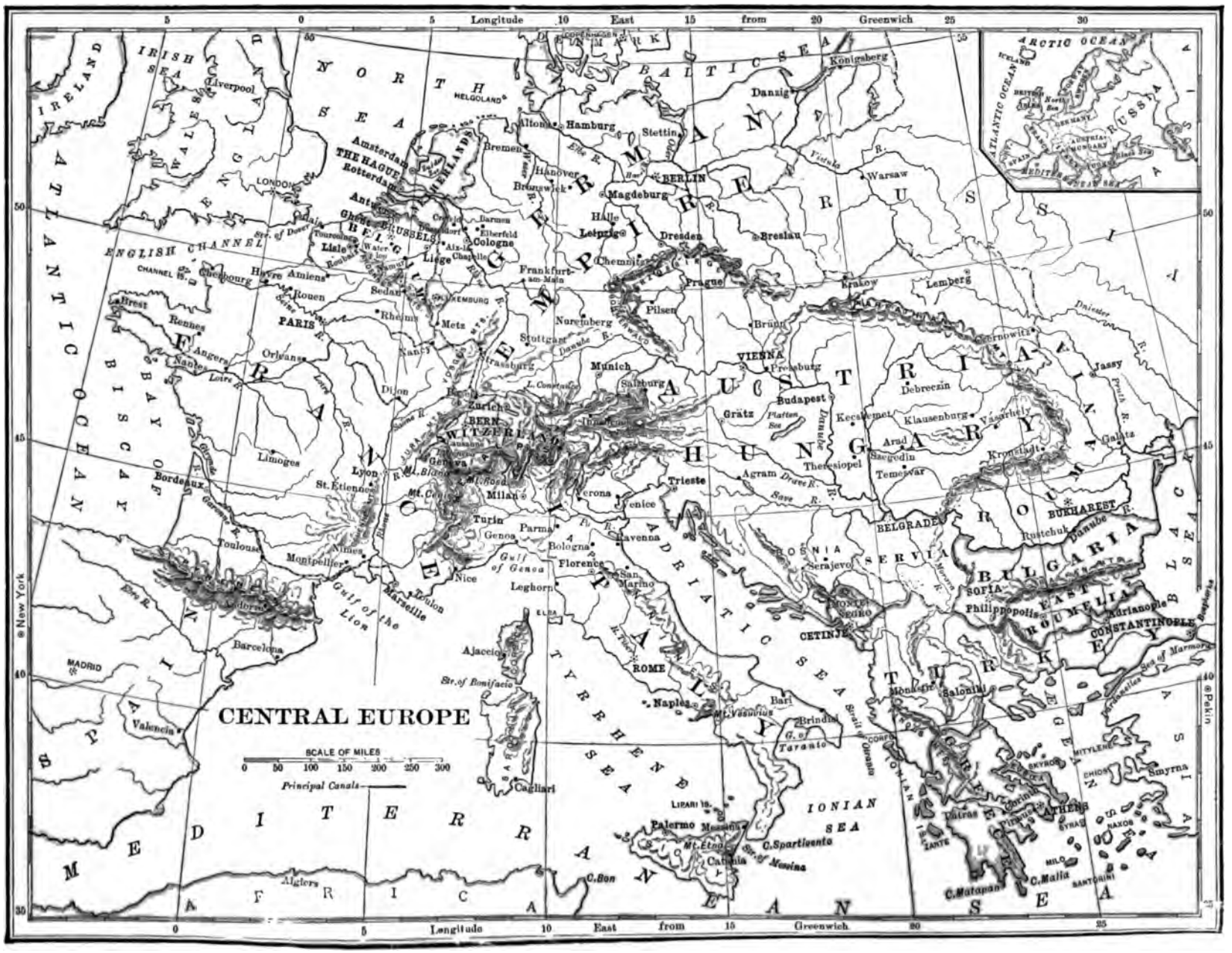
Copenhagen is the capital and chief city of Denmark.

Norway Fiord.

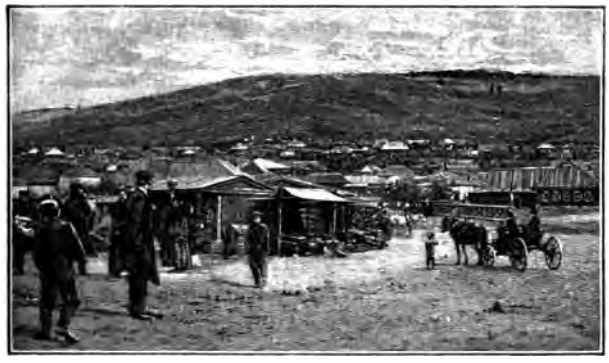
Norway Girls.

NETHERLANDS OR HOLLAND. Holland lies mostly in the Rhine delta lands, and is very fertile. Large quantities of dairy products are shipped to other countries. *See lesson 68.*

NORWAY and SWEDEN. The Scandinavian peninsula, composed of Norway and Sweden, is famous for the beauty of its deep bays or *fiords*, mountains, falls and lakes.


CENTRAL EUROPE
SCALE OF MILES
0 50 100 150 200 250 300
Principal Canals
Longitude East from Greenwich
New York
Pekin
ARCTIC OCEAN
ATLANTIC OCEAN
IRISH SEA
IRELAND
NORTH SEA
HELGOLAND
BALTIC SEA
DENMARK
Königsberg
Danzig
Stettin
Hamburg
Altona
Bremen
Hanover
Brunswick
BERLIN
Magdeburg
Halle
Leipzig
Dresden
Breslau
Warsaw
RUSSIA
GERMANY
Amsterdam
THE HAGUE
Rotterdam
NETHERLANDS
Antwerp
Ghent
BRUSSELS
BELGIUM
Liège
Cologne
Aix-la-Chapelle
Elberfeld
Barmen
Crefeld
Düsseldorf
Lille
Roubaix
Tourcoing
Calais
Dover
Str. of Dover
ENGLISH CHANNEL
CHANNEL IS.
LONDON
Liverpool
WALES
ENGLAND
Cherbourg
Havre
Amiens
Rouen
Sedan
Rheims
Metz
LUXEMBURG
Frankfurt-am-Main
Chemnitz
Prague
Pilsen
Brünn
Krakow
Lemberg
Cernowitz
Jassy
Dniester R.
Pruth R.
Galatz
Brest
Rennes
Nantes
Angers
Orleans
PARIS
Seine R.
Loire R.
Nancy
Strasbourg
Nuremberg
Stuttgart
Danube R.
Munich
Salzburg
VIENNA
Pressburg
Budapest
Debreczin
Kecskemet
Klausenburg
Vaszhely
Arad
Szegedin
Temesvar
Kronstadt
Gratz
Platten Sea
Theresiopel
Dijon
Basel
Zurich
BERN
SWITZERLAND
Lausanne
Geneva
Mt. Blanc
Mt. Cenis
Mt. Rosa
Milan
Verona
Venice
Trieste
Agram
Drave R.
Save R.
Limoges
Lyon
St. Etienne
Bordeaux
Garonne R.
Toulouse
Montpellier
Nimes
Rhone R.
Marseille
Toulon
Nice
Gulf of Lion
Gulf of Genoa
Turin
Genoa
Parma
Bologna
Florence
Leghorn
Ravenna
San Marino
ELBA
Pisa
Po R.
Tiber R.
ADRIATIC SEA
BELGRADE
SERVIA
BOSNIA
Serajevo
Morava R.
BULGARIA
SOFIA
EASTERN ROUMELIA
Philippopolis
Adrianople
CONSTANTINOPLE
Sea of Marmora
Dardanelles
Bosphorus
BUKHAREST
Rustchuk
Danube R.
ROUMANIA
BLACK SEA
MONTENEGRO
CETINJE
Mona de
Salonika
TURKEY
GREECE
Corinth
ATHENS
Patras
Smyrna
MITYLENE
CHIOS
SYRA
NAXOS
MILO
SANTORINI
C. Malea
C. Matapan
Corfu
IONIAN SEA
Strait of Otranto
Brindisi
Bari
G. of Taranto
Naples
Mt. Vesuvius
ROME
ITALY
TYRRHENIAN SEA
Ajaccio
Str. of Bonifacio
Cagliari
Palermo
Messina
Mt. Etna
Catania
C. Spartivento
Str. of Messina
LIPARI IS.
C. Bon
Algiers
AFRICA
MEDITERRANEAN SEA
Barcelona
Valencia
MADRID
SPAIN
Ebro R.
Pyrenees
Andorra
BAY OF BISCAY
ATLANTIC OCEAN

The forests of the peninsula yield much lumber; the open plains of the southeast supply wheat and other grains; food-fish abound along the west coast.



A Russian Village near the Ural Mountains.

Stockholm is the capital and principal city of Sweden. **Gottenborg** is the chief port.

Christiania is the capital and largest city of Norway. **Bergen** is the largest city on the west coast.

RUSSIA. Russia occupies more than half of Europe. It also controls Siberia, in northern Asia, and many smaller states. *For Russian possessions in Asia, see text on page 158.*

Church in Moscow.

Town near St. Petersburg.

This great empire has immense grainfields, forests, gold mines, petroleum wells, fur regions and grazing tracts. It has many railroads and a network of canals. Among its best natural highways of trade are the long Volga and Dnieper rivers and the great seas on its borders.

St. Petersburg is the chief city and the capital. It is built mainly on delta islands in the Neva river. Only two cities in America are larger than St. Petersburg.

Moscow is the center of trade of a large area, because it is a great railroad city. An old fortress, or *Kremlin*, incloses many famous buildings in Moscow.

Warsaw is a railroad center and the principal city of southwest Russia.

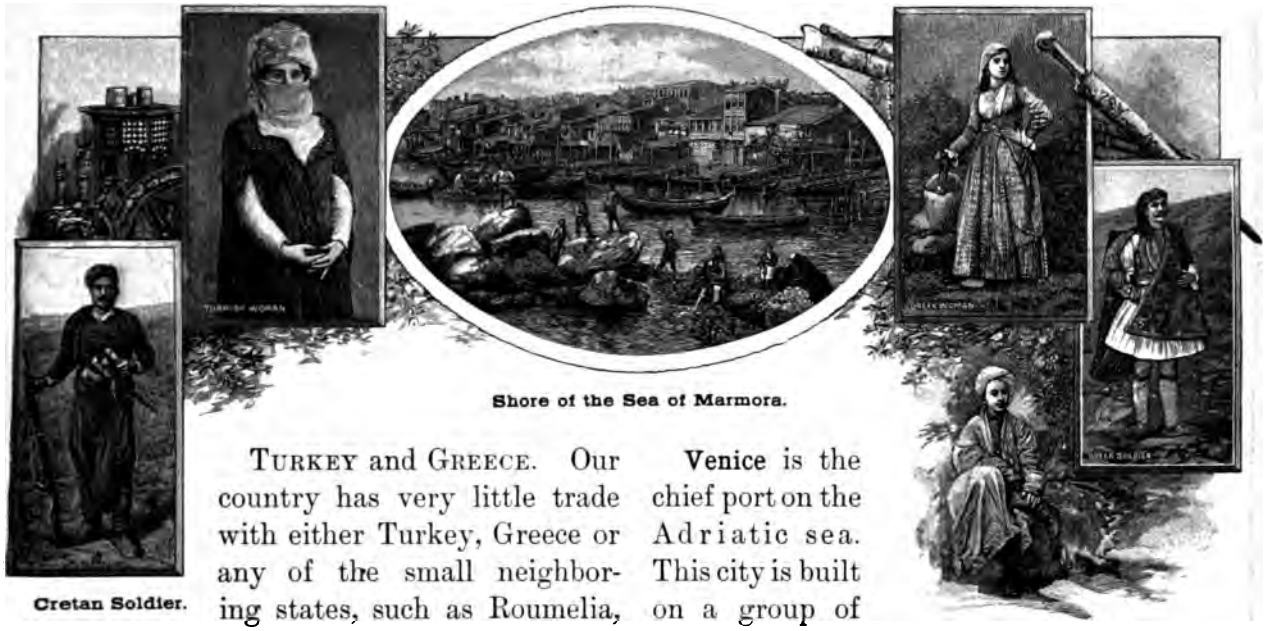
Odessa is a great grain port on the Black sea.

AUSTRIA-HUNGARY. In this country are the fertile plains of the middle Danube basin. They produce grain, sugar beets and grapes. Many cattle also graze here. The highlands round the valley are rich in gold, iron and other minerals.

Vienna, on the Danube river, is the capital and chief city. It is noted for its beautiful buildings. **Budapest,** also on the Danube, is the second city in size.

Plowing in Southern Russia.

SWITZERLAND. This country is famous for the beauty of its mountains, lakes and waterfalls. **Zurich** is the largest city. **Geneva** is noted for its watches and music boxes. **Bern** is the capital of Switzerland.



Shore of the Sea of Marmora.

Cretan Soldier.

Boy of Roumania.

TURKEY and GREECE. Our country has very little trade with either Turkey, Greece or any of the small neighboring states, such as Roumelia, Roumania, Servia and Montenegro.

Constantinople, on the strait of Bosphorus, is the capital of Turkey.

Athens is the capital of Greece. This was one of the most famous cities of ancient times, and contains ruins of many beautiful temples.

ITALY. The valley of the Po river is very level and fertile. Grain grows abundantly, and cattle find excellent pasturage. The foothills round the plains are covered with vineyards.

Turkish Officer.

The slopes on the southwest side of the Apennines have a warm climate, and are suited to the growth of oranges, lemons, grapes and other fruits.

Naples, on the bay of Naples, is the largest port of Italy. Near the city is the famous volcano of Vesuvius. **Genoa,** a northern port, was the birthplace of Columbus.

Venice is the chief port on the Adriatic sea. This city is built on a group of islands, and canals partly take the place of streets.

Rome, the capital, was the most famous city of ancient times. Many of the ruins of old temples and other buildings may still be seen.

St. Peter's and the Vatican are both in Rome. The former is the largest church in the world; the latter is the home of the Pope,

St. Peter's and St. Angelo.

and contains many fine paintings, statues and other works of art.

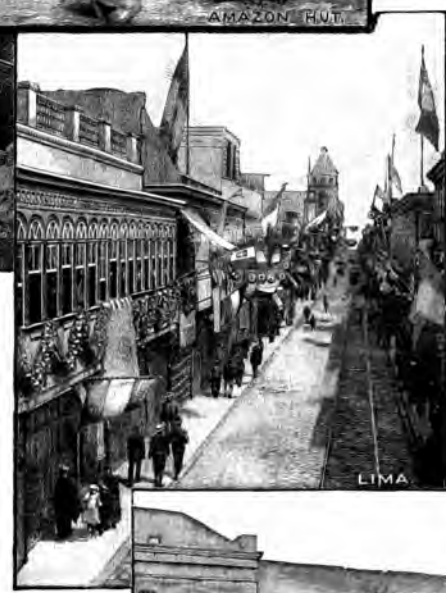
Milan is the center of trade in the Po valley. **Florence** is one of the great art centers of the world.

SPAIN and PORTUGAL. These two countries form the Spanish peninsula. It consists mainly of a dreary upland, but the lands in the river valleys and round the coast are very

HUT IN COLOMBIA

AMAZON HUT

SILVER MINE, BOLIVIA


LIMA

LIMA BAKER

its greatest highland, Pacific slope, Atlantic slope, eastern highlands, three large river basins. Locate the highland of Brazil; of Guiana. Where are the pampas? The llanos? The selvas? Which of these three plains is drained by the Amazon river? Orinoco river? Plata river?

Name a large branch joining the Amazon from the north; one from the south. Name the largest river flowing into the broad Plata. Where is the Magdalena river? The San (or Saõ) Francisco river? Lake Titicaca? Strait of Magellan?

What three heat belts cross South America? *See page 33.* What, then, can you say of the seasons in the northern part? Middle part? Southern part? In the Andes highland *(see lesson 54)*?

What countries of South America border on the Pacific ocean? On the Atlantic ocean? Through which does the Andes highland extend? Which are crossed by the equator? Which border on Brazil? Which country contains the larger part of the selvas? The llanos? The pampas? What two countries are separated by the Andes?

NOTE: — *Review lessons 38, 92, 93, 94, 95, 96 and 97.*

Most of the white people of South America are of Spanish or of Portuguese descent. They have built their towns and cities chiefly along the coasts.

There are several millions of Indians of low grade living in the interior of South America. The Indians of the Andes countries are more intelligent. *See lesson 93.*

There are many Negroes in South America, mostly former slaves or their descendants.

BRAZIL. This great country is mostly in the hot belt. The large rivers show that it has plenty of rainfall. Coffee, sugar cane and tobacco thrive. Many cattle graze on the slopes of southern Brazil. India rubber trees grow on the hot and moist banks of

fertile. Grains thrive, but the most valuable crops come from the vineyards and orange groves. Wine and fruit are sent to other countries. **Madrid,** the capital, is in the upland.

Barcelona is the leading port. **Lisbon** is the capital of Portugal and the chief city.

SOUTH AMERICA.

143. Countries and Cities.

MAP STUDIES. Bound South America. Refer to the map on page 80 and describe the surface of this land mass, —

SOUTH AMERICA
CARIBBEAN SEA
C. Gallinas
Maracaibo
L. Maracaibo
Valencia
La Guaira
CARACAS
TRINIDAD
Cartagena
Panama
Orinoco R.
GEORGETOWN
PARAMARIBO
CAYENNE
BOGOTÁ
QUITO
Chimborazo
Guayaquil
GALAPAGOS IS. (To Ecuador)
Mouths of the Amazon R.
EQUATOR
Pará
Rio Negro
Amazon R.
Marañon R.
Madeira R.
Tocantins R.
C. St. Roque
Pernambuco
Rio Francisco R.
Bahia
Callao
Cuzco
La Paz
Arequipa
ARICA
SUCRE
Potosi
Iquique
Paraguay R.
Paraná R.
RIO DE JANEIRO
C. Frio
Santos
TROPIC OF CAPRICORN
Antofagasta
ASUNCION
Pilcomayo R.
Paraná R.
Uruguay R.
Aconcagua
Cordoba
Rosarios
Valparaiso
SANTIAGO
URUGUAY
MONTEVIDEO
BUENOS AYRES
La Plata
Plata R.
JUAN FERNANDEZ I.
C. Blanco
PATAGONIA
FALKLAND ISLANDS (To Gt. Britain)
Strait of Magellan
TIERRA DEL FUEGO
Cape Horn
SOUTH GEORGIA (To Gt. Britain)
SCALE OF MILES
0 100 200 400 600 800
COMPARATIVE AREA
PENN. 45,000 SQ. MILES
THIS RECTANGLE CONTAINS 105,000 SQUARE MILES
Longitude West from Greenwich
Hindustan
Malay Pen.
New Guinea
New Zealand
Senegambia
Liberia
Kongo State
Mozambique
South African Rep.
Cape Colony
Tasmania

the Amazon. Rubber is made from their sap. Brazil trades largely with the United States, and buys cloth, machines, tools and hardware. In return it sends us coffee, rubber and sugar.

Indians of Southern Chile.

Rio de Janeiro, the capital, is the chief port in the coffee trade. **Para** is a market for rubber.

ARGENTINA. Millions of cattle, sheep and horses graze on the pampas of Argentina. Hides, wool and beef are articles of trade. Wheat and corn are among the principal products of the farms.

The imports of this country are cloth and railway supplies, — engines, rails and wire. The trade with the United States is small.

Buenos Ayres, the capital, is the leading port for the products of the Plata basin.

CHILE. The wealth of Chile is in its mines and farms. The most valuable products are niter, copper, silver and wheat. The imports of Chile include cloth, beef and sugar. The trade with the United States is very light.

Valparaiso is the chief port of Chile. **tiago,** the capital, is in the healthful upl

URUGUAY and PARAGUAY. These two s countries lie mostly in the basin sloping t broad Plata mouth. They have good gr lands. **Montevideo** is an important seapc Uruguay.

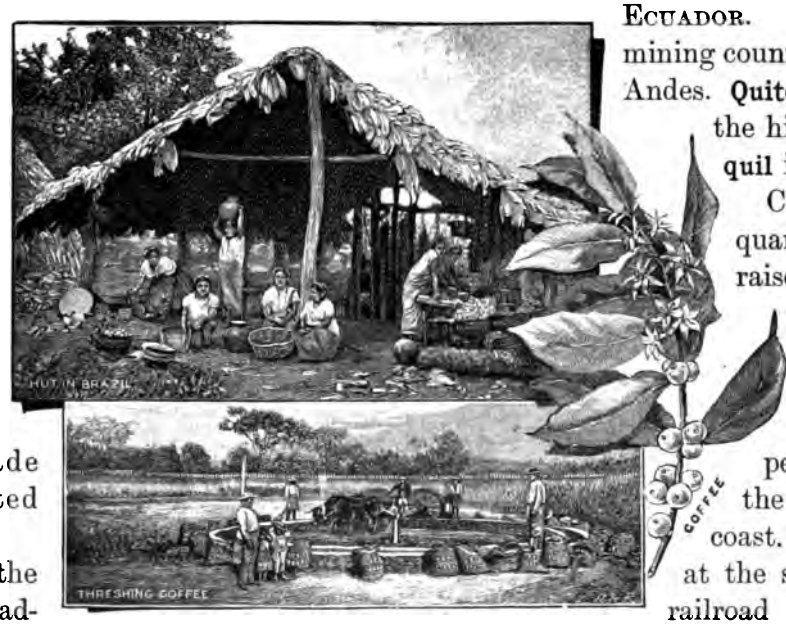
BOLIVIA. This inland country has fa silver mines. In its forests are many ru trees. **La Paz** is the largest city. **Suc** the capital.

PERU. Many alpacas and sheep are r in the high plateaus of this country. *page 32.* Much of the wool of these ani is sent abroad. There are rich mines i mountains.

Lima is the capital and chief city of I Like the other Andean capitals, it is in highlands. Its port is **Callao.**

ECUADOR. This is anc mining country crossed b Andes. **Quito, the capital,** the highlands. **Gu quil** is its seaport.

COLOMBIA. L quantities of coffe raised in this cou **Bogota,** capital, is up among Andes, where people are safe the fevers of the coast. **Panama** is a at the southern end railroad that crosses isthmus of Panama.



VENEZUELA. This country, like its ne bor on the west, produces coffee. Many c are raised in the llanos or plains of the noco. Coffee and hides are leading exp **Caracas** is the capital and principal city.

GUIANAS. The three Guianas are held by the British, Dutch and French. Gold is found in the highland and sugar cane is raised in the lowland. The capitals — **Georgetown, Paramaribo** and **Cayenne** — are the chief cities.

ASIA.

144. Countries and Cities.

INDIA. India is not quite one half so large as our country, but it has four times as many people. The Ganges river floats large boats a thousand miles through its fertile valley. Rice is the food of fully one third of the people living in this valley.

India has a hot climate and raises large crops of rice, cotton, wheat, poppy and many other plants. The poppy plant yields a drug called *opium*. A large portion of these products is sent to England, because the British control the country. India imports cloth, machines, hardware, sugar and many other kinds of goods.

Woman of India.

Benares on the Ganges.

Calcutta, the capital, and **Bombay** are the leading ports of India. The former is in the Ganges delta. **Madras** is a large port on the southeast coast.

Most of the people of India are *Hindus* (or *Hindoos*). They belong to the white race.

The island of Ceylon, near the southeast coast of India, belongs to Great Britain. Tea and spices thrive on the island.

CHINA. From the lofty plateau of Tibet the great empire of China spreads like a huge fan eastward to the Pacific ocean. Its area is greater than that of the United States. Its people belong to the yellow race.

The largest delta in the world stretches along the coast around and between the mouths of the Hoangho and Yangtze rivers. The delta soil is fertile and water is easily led in canals over the plain. Many large cities have here been built. No other region on the earth is so thickly peopled.

Himalaya Mts.

Natives of Ceylon.

The Hoangho or Yellow river is swift, except in the lower part of its delta, but the Yangtze river is open to ocean steamers for a thousand miles.

The leading products of China are tea and silk. The chief imports are cotton cloth and opium.

The trade of China with other nations is carried on mainly through **Hongkong,** a British island near the southeast coast. **Shanghai** and **Canton** are other great ports. **Pekin** is the capital.

JAPAN. Japan has made more progress than any other country in Asia. It has good schools. Its cities have great mills and factories.

The principal products of Japan are tea, silk and rice. Silk weaving and ivory carving are carried on with great skill. *See the text on pages 38 to 40.*

SIBERIAN HUT

MONGOLIAN HUT

SYRIAN

ARAB

HINDOOS

CHINAMAN

Tokyo is the capital and largest city of Japan. **Yokohama** is the chief port. The Japanese belong to the yellow race.

(*Continued on page 158.*)

MAP STUDIES. What oceans are on three sides of Asia? What grand divisions are west of it?

Which part of Asia is the most mountainous? *See page 86.* What great country lies between the central mountain mass and the Arctic coast? What empire includes the lofty plateau of Tibet and the long slopes stretching east and northeast to the sea? Name the country lying between Tibet and the Indian ocean. What countries are in part separated by the Himalaya mountains? Where are Anam and Siam?

Locate Mt. Everest; Mt. Ararat; volcano of Fujiyama; Altai mountains; Khinghan mountains; Hindu Kush mountains; Pamir plateau; Kuenlun mountains.

What sea is on the north of Persia? What gulf is on the southwest? Name the two countries lying between Persia and India.

What large bodies of water form part of the boundary of Turkey in Asia? What great country (besides Turkey) occupies a large part of the peninsula between the Red sea and the Persian gulf?

Name the seas that partly surround the peninsula of Kamchatka? Of Korea? Of Farther India[1]? Of India? Of Arabia? Of Asia Minor[2]?

What island empire extends from Formosa almost to Kamchatka? What sea is west of the largest Japanese island? Where is Ceylon? Cyprus? Sumatra? Borneo? Where are the Philippine islands?

Locate the Malay peninsula; lake Baikal; sea of Aral; desert of Gobi.

What two rivers unite and flow into the Persian gulf? Name three large rivers that flow northward across the plain of Siberia. Into what sea does the Amur river flow? What two great rivers flow eastward through China? In what mountains do the Indus and Ganges rivers rise, and into what sea and bay do they flow? Where is the Ural river?

Which part of Asia is in the hot belt? In the warm belt? In the cool belt? In the cold belt?

[1] The name "Farther India" is given to the great peninsula which embraces Anam, Siam and Burma.

[2] The peninsula of Turkey south of the Black sea is often called "Asia Minor," meaning "Lesser Asia."

ASIA
Longitude West from Greenwich
Longitude East from Greenwich
NORTH AMERICA
Bering Str.
ATLANTIC OCEAN
ARCTIC OCEAN
ARCTIC CIRCLE
Tundras
KARA SEA
NEW SIBERIA
WRANGELL I.
BERING SEA
ALEUTIAN IS.
OKHOTSK SEA
SAKHALIN
JAPAN SEA
EUROPEAN RUSSIA
ST. PETERSBURG
RUSSIAN EMPIRE
SIBERIA
Yakutsk
Omsk
Irkutsk
Lake Baikal
Kiakhta
Urga
MONGOLIA
Desert of Gobi
MANCHURIA
Kirin
Mukden
Vladivostok
KIRGHIZ STEPPES
L. Balkash
Sea of Aral
TURKESTAN
Tashkend
BOKHARA
EASTERN TURKESTAN
Kashgar
Yarkand
PAMIR PLATEAU
KABUL
AFGHANISTAN
Herat
Khiva
CONSTANTINOPLE
BLACK SEA
CAUCASUS
TRANS CAUCASIA
Tiflis
Tabriz
Smyrna
CYPRUS
MEDITERRANEAN SEA
Jerusalem
Damascus
TEHERAN
PERSIA
KHELAT
BALUCHISTAN
Delhi
Bolan Pass
Khyber Pass
Indus R.
Ganges R.
Benares
Lassa
TIBET
Everest
Yangtze
Yellow R.
Hoangho
Peking
Tientsin
CHINA
YELLOW SEA
Shanghai
NANLING MTS.
TROPIC OF CANCER
FORMOSA
Canton
Hongkong
Macao
HAINAN
Hanoi
Mandalay
UPPER BURMA
LOWER BURMA
SIAM
BANGKOK
HUE
Rangoon
Gulf of Siam
PHUM PENH
SAIGON
MANILA
PHILIPPINE ISLANDS
Singapore
BORNEO
SUMATRA
JAVA
Mekka
Mocha
RED SEA
ARABIA
MASKAT
ARABIAN SEA
HINDUSTAN
CALCUTTA
Bombay
Madras
BAY OF BENGAL
CEYLON
Colombo
INDIAN OCEAN
EQUATOR
SCALE OF MILES
0 200 400 600 800 1000
COMPARATIVE AREA
PENN. 45,000 SQ. MILES
THIS RECTANGLE CONTAINS 100,000 SQUARE MILES
Labrador
France
Algeria
Sahara
Sudan
Upper Guinea
Canada
United States
Mexico
Central America
Colombia
40 50 60 70 80 90 100 110 120 130 140

SIAM and ANAM. The products of these countries are like those of British India, but the land is poorly tilled and yields little compared with the Ganges valley. Siam has a king of its own, but Anam is under the control of the French. **Bangkok** is the capital of Siam; **Hué** of Anam.

A Georgian of Tiflis.

Petroleum Wells near Baku.

The natives of these countries belong to the yellow race.

KOREA. Korea has little to do with foreign countries. Its trade is mostly with the Japanese. **Seoul** is the capital and principal city.

Children of Korea.

ASIATIC RUSSIA. Siberia and the district along the south side of the Caucasus mountains belong to Russia. Other small states between the Caspian sea and the central plateaus are under the same control. The great empire of Russia includes about one seventh of all the land-surface of the earth. The northern part of Siberia is frozen and almost lifeless during the long winter; during the few weeks of summer the marshy lands thaw for a few inches beneath the surface and flowers spring up and blossom.

On the south of this frozen belt lie great forests in which many fur-bearing animals live. Still farther south are grain lands and grazing tracts. The Ural mountains have rich gold mines.

Tashkend is the largest Russian city in Asia. **Tiflis** is next in size. A railroad running through the latter city carries great quantities of petroleum from **Baku**, on the Caspian sea, to **Batum**, on the Black sea. *See page 95.* Thence it is shipped to other ports. The oil wells near Baku are the richest in the world.

Armenian.

Caucasus Natives.

Irkutsk is a center of trade for central Siberia. A railroad is being built east-and-west across this great country, to connect Russia in Europe with the Pacific coast. This road will greatly increase overland trade with Russia.

AFGHANISTAN and BALUCHISTAN are small countries on the west of India. The lands are rugged and many of the people are shepherds. Afghanistan is crossed by caravan routes leading from southwest Asia into India. **Kabul** is a trade center.

The natives of these two countries, and of the other countries of southwest Asia, belong

to the white race, though most of them are dark-skinned.

PERSIA. This country is chiefly a plateau region. Many sheep are raised here. Dates grow on the lands along the coast.

Man of Sumatra.

The home-made rugs and carpets of Persia are well known. **Teheran** is the capital.

ARABIA. Arabia is largely a desert country, but some parts are fertile. There the date palm thrives, and camels and horses are raised. *See lesson 67.* **The Red** sea coast of the Arabian peninsula **belongs** to Turkey. The inland portions of **Arabia** are not well known.

ASIATIC TURKEY. The coast lands of Asia **Minor** produce fruits, such as olives, figs, grapes. The uplands form good pastures.

Smyrna is the largest port of Asiatic Turkey. It exports fruits, rugs and carpets. This is a very old city and was famous in ancient times.

Village on the Mekong River.

Along the eastern end of the Mediterranean sea is Palestine, the most famous country in Bible history. It is now a part of Turkey.

In this ancient country is found the well-known city of **Jerusalem.** A little east of this city is the *Dead Sea.* Its water is ten times as salt as that in the ocean. The sea is about fifty miles long and its surface is one fourth of a mile below sea level.

Northward from Jerusalem is another very old city called **Damascus.** Many caravans start from this city, going to places farther inland.

One of the most fertile parts of Turkey is the valley of the Tigris and Euphrates rivers, sloping down to the Persian gulf. Ages ago this valley was like a great garden or grainfield, and in its midst were large cities. Fine canals or ditches were made to lead the river water over the land, as is now done in Egypt; but most of the ditches are in ruins and the crops are scanty.

Man of Borneo.

Along the southern part of the Red sea coast great quantities of excellent coffee are raised. **Mocha** is a famous coffee port.

EAST INDIES. Sumatra, Java, Celebes and most of Borneo belong to Holland, and are known as the *Dutch East Indies. See map on page 104.* The British hold northwest Borneo. The Philippines belong to the United States.

The islands of the East Indies are under or not far from the equator and have hot and moist weather nearly all the year. The soil is very fertile and produces sugar cane, rice, coffee, tea and spices.

Most of the natives of these islands, and of those farther east, belong to the brown race. In Java alone there are one third as many people as in our own country. *See lesson 66.*

Singapore, on an island near the end of the Malay peninsula, carries on a large part of the trade of the East Indies. **Batavia** (*see page 104*) is the chief city of Java. **Manila** is the port of the Philippine islands.

AFRICA.

145. Countries and Cities.

MAP STUDIES. On which side of the equator is the larger part of Africa? What great river valley of South America is due west of the Kongo river valley? What ocean is between these two grand divisions?

What sea is between Africa and Europe? Africa and Asia? What have you learned about the isthmus of Suez?

Which part of Africa is the most mountainous? *See page 98.* Describe the desert of Sahara. *See lesson 115.* Locate the highland of Abyssinia; the Atlas mountains; Snow mountains; Kalahari desert.

Bedouins.

What have you learned about the Nile? *See lesson 114.* Describe the Kongo basin. *See lesson 116.* Into what body of water does the Niger river flow? The Zambezi river? The Orange river?

Locate lake Tchad; lake Tanganyika; Victoria Nyanza (or lake Victoria). What large island is southeast of Africa? Where are the Canary islands? Madeira islands? Where is St. Helena?

Village in the Philippine Islands.

Through what country does the lower Nile flow? In what mountainous country does the Blue Nile rise? Name the Mediterranean country next west of Egypt. On what waters does Morocco border? Where are Algeria and Tunis?

What name is given to the region lying along the south side of the desert of Sahara? Where is Liberia? Upper Guinea? Lower Guinea? What country or state occupies the greater part of the valley of the Kongo?

Where is Cape Colony? Orange Free State? Transvaal?

Name four nations of Europe that claim large parts of Africa.

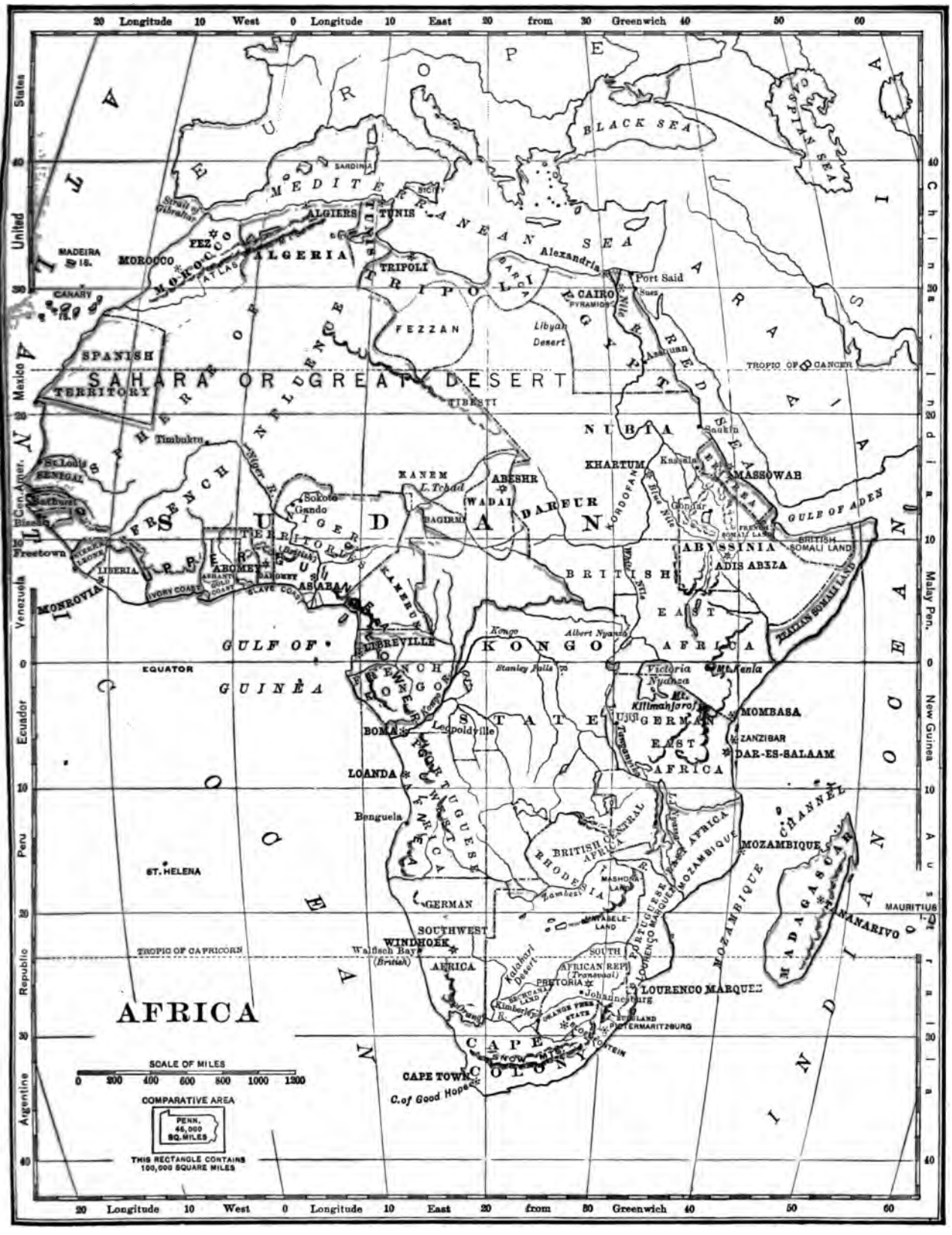
In which heat belt is middle Africa? Northern Africa? Southern Africa?

Not many years have passed since a white man first crossed middle Africa. Since then much has been learned about the continent.

Not one of the large rivers of middle or southern Africa is open to vessels from the sea; all are blocked by falls or rapids. The low coast lands of this continent, for hundreds of miles on either side of the equator, are very unhealthful. The desert of Sahara makes travel from the north difficult.

For these and other reasons, large portions of Africa are still little known.

Buffalo of Egypt.


AFRICA
SCALE OF MILES
0 200 400 600 800 1000 1200
COMPARATIVE AREA
PENN. 46,000 SQ. MILES
THIS RECTANGLE CONTAINS 100,000 SQUARE MILES
SAHARA OR GREAT DESERT
SUDAN
GULF OF GUINEA
EQUATOR
TROPIC OF CAPRICORN
TROPIC OF CANCER
BLACK SEA
CASPIAN SEA
MEDITERRANEAN SEA
RED SEA
GULF OF ADEN
MADEIRA IS.
CANARY IS.
MOROCCO
FEZ
ALGIERS
TUNIS
ALGERIA
TRIPOLI
FEZZAN
CAIRO
Port Said
Alexandria
Libyan Desert
SPANISH TERRITORY
Timbuktu
FRENCH SPHERE OF INFLUENCE
NIGER TERRITORY
KANEM
ABESHR
WADAI
DAREUR
NUBIA
KHARTUM
MASSOWAH
ABYSSINIA
ADIS ABEZA
BRITISH EAST AFRICA
BRITISH SOMALI LAND
ITALIAN SOMALI LAND
KONGO
LIBREVILLE
FRENCH KONGO
BOMA
Leopoldville
LOANDA
Benguela
PORTUGUESE WEST AFRICA
GERMAN EAST AFRICA
MOMBASA
ZANZIBAR
DAR-ES-SALAAM
MOZAMBIQUE
MOZAMBIQUE CHANNEL
MADAGASCAR
TANANARIVO
MAURITIUS
ST. HELENA
GERMAN SOUTHWEST AFRICA
WINDHOEK
Walfisch Bay (British)
BRITISH CENTRAL AFRICA
RHODESIA
MASHONA LAND
MATABELE LAND
SOUTH AFRICAN REP. (Transvaal)
PRETORIA
Johannesburg
LOURENCO MARQUEZ
PIETERMARITZBURG
CAPE COLONY
CAPE TOWN
C. of Good Hope
Kalahari Desert
Kimberley
Freetown
LIBERIA
MONROVIA
IVORY COAST
ASHANTI GOLD COAST
SLAVE COAST
DAHOMEY
ABOMEY
Sokoto
Gando
Gondar
Kassala
Saukin
Assuan
Port Said
Suez
Nile R.
Blue Nile
Kongo
Albert Nyanza
Stanley Falls
Victoria Nyanza
Mt. Kenia
Mt. Kilimanjaro
Ujiji
Tanganyika
Zambesi
Kimberley R.
Orange R.
Niger R.
Strait of Gibraltar
ATLAS
SARDINIA
SICILY
BARCA
EGYPT
ARABIA
ASIA
EUROPE
ICELAND
INDIAN OCEAN
ATLANTIC OCEAN
Longitude 10 West 0 Longitude 10 East 20 from 30 Greenwich 40 50 60
Argentine Republic Peru Ecuador Venezuela Mexico United States
China - India Malay Pen. New Guinea Australia

The native people in the countries on the north of the Sahara desert belong to the dark branch of the white race. Those in the lands south of the desert include the true Negroes and other tribes of the black race. *See lesson 61.* Many white people from the leading countries of Europe have settled along the coasts of nearly all parts of Africa.

Arab Praying in the Desert.

Arabs of Cairo.

EGYPT. The spring harvest in Egypt consists largely of grains. The autumn harvest includes cotton, sugar and rice. This country sells raw cotton and buys cloth. There is also a light trade in many other articles. Nearly all the trade is with England.

Negro.

Cairo, the capital, is the chief center of trade in Egypt. **Alexandria** is the largest seaport.

TRIPOLI and MOROCCO lie along the Mediterranean coast. Tripoli has but little rainfall and is thinly settled. The Atlas mountains cause heavier rainfall in Morocco, and the grassy slopes afford pasturage for many cattle and sheep. Wheat thrives in the small river valleys. **Morocco,** the capital, and are the chief cities.

ALGERIA and TUNIS. These states a great stretcl southwe the Atl ocean b

to France. Al and Tunis have products like those of Mor **Tunis** and **Algiers** are the largest cities.

SUDAN. This name is given to the g of states lying a the south side o Sahara desert. of the people be to the black race they are not all ages. Some liv large towns carry on trade the northern c tries. Caravan back and forth a the great de They carry the i tusks of eleph

Woman of Egypt.

ostrich feathers and various gums. Camels and horses also are raised for market.

LIBERIA. This is a small country settled chiefly by freed slaves from the United States. **Monrovia** is the capital.

Zulu Chief.

ABYSSINIA. This highland country has fought back the soldiers of Italy sent to subdue it, and is still ruled by its native king. The natives have little to do with the outside world.

The yearly overflow of the Nile is caused largely by the rainfall in the mountains of Abyssinia.

KONGO STATE. This state includes the greater portion of the valley of the Kongo river. It extends from the lakes of central Africa to the Atlantic ocean.

White people have trading stations on the lower Kongo and buy from the natives coffee, ivory tusks and palm oil. **Boma** is the local capital, but the king of the Belgians is the ruler.

Cape Town.

CAPE COLONY. This is a very valuable British colony. Its diamond mines are the richest in the world. Many cattle, sheep and ostriches are raised on the ranches. Three fourths of the people belong to the black race, but the white people forming the other fourth rule the land. **Cape Town** is the capital and chief port. The richest diamond mines are at **Kimberley,** an inland town.

Guinea Negress.

TRANSVAAL. The Transvaal gold mines are among the richest in the world. The native black people are called *Kaffirs.* The early white settlers in this state were Dutch, here known as *Boers.*

There are also many settlers from other white nations. **Pretoria** is the capital.

Johannesburg, the principal city near the gold region, has had very rapid growth.

There are several other small states in Africa; also large areas under the control of nations of Europe. Among the other large cities not named above are **Tananarivo,** on the island of Madagascar, and **Zanzibar,** on a small island near the east coast of Africa. The French are trying to control Madagascar.

House in Madagascar.

GOVERNMENTS.

146. Forms of Government.[1]

Nearly all savages live in groups, called *tribes*. Each tribe generally has a *chief* to rule over it.

The black people of Africa, Australia and New Guinea, as well as the free tribes of brown people on the Pacific islands, have the *tribal* form of rule, or *government*.

Some nations above the savage state have rulers that hold office for life, by right of birth. When such a ruler has power to make all laws for his people, his government is an *absolute monarchy*.

If one who rules by right of birth has not full power to make all the laws, his government is called a *limited monarchy*. The ruler of a monarchy is called a *monarch*. Nations give various names to monarchs, — as King, Queen, Emperor, Empress, Sultan, Czar, Mikado, etc.

All the nations of yellow people, except Japan, have absolute monarchies. Japan has a limited monarchy. All the white nations of Asia and Africa, which have their own rulers, are absolute monarchies. Russia and Turkey also, having lands in both Asia and Europe, have this form of government.

The other countries of Europe, except France and Switzerland, are limited monarchies.

Countries in which the people choose their own rulers are *republics*. The ruler of a republic is called a *President*.

All the countries of America, except those parts which are under the control of foreign nations, are republics. France and Switzerland also are republics. The United States is the largest republic and the richest nation in the world.

[1] This lesson is placed here mainly for *reference*, as the subject of governments can be much better studied when the pupils are older. Many teachers will doubtless omit this lesson from the elementary course.

SPECIAL SUPPLEMENT.

CUBA, PUERTO RICO, HAWAII, PHILIPPINES, GUAM.

THE West Indies are a long chain of islands separating the Atlantic ocean from the gulf of Mexico and the Caribbean sea. The most important of these islands are Cuba, Haiti, Puerto Rico and Jamaica; the latter belongs to Great Britain; Haiti contains two small republics. The island of Puerto Rico was ceded to the United States at the close of the recent war with Spain; at the same time Cuba came under our protection.

Morro Castle; Entrance to Havana Harbor.

CUBA. Cuba, the "Queen of the Antilles," is the largest island of the West Indies. Its length is about 750 miles; its area is 43,000 miles — almost as large as Pennsylvania, or nearly nine times as large as Connecticut.

Cuba may be roughly divided into three regions — mountainous in the east, hilly in the middle, level in the west. There are many fertile valleys along the coasts and among the hills. Broad fields occupy the greater part of southwest Cuba and afford the best farming lands. The rivers of Cuba are numerous but small.

The coast of this island is fringed with coral reefs, rocks and bars; but there are also many fine harbors. Among these is Havana harbor.

Cuba is in the hot belt and has a rainy season during the hottest part of the year. The lowlands are then unhealthful; but the uplands have a better climate. "Winter," or the dry season, is the pleasant part of the year.

Tropical plant life thrives in the island and runs wild over most of the highlands. The hill slopes produce coffee; sugar and tobacco abound in the valleys and plains. Fruits grow in abundance in all parts of the island.

There are few large animals in Cuba, except the domestic kinds; but birds are plentiful, and fish and turtles are caught in great numbers.

The early explorers found in Cuba about a million peaceful Indians; but under Spanish rule the red race there died out. Many African Negroes were taken to Cuba as slaves. They are now free and form fully one third of the population, which at present numbers perhaps over 1,500,000. The other two thirds include the white people, the mixed races, and several thousand coolies, or laborers from China and the East Indies.

Havana is the capital and largest city. It contains one eighth of the people of the island. This is also the railroad center and chief port. The principal exports are sugar, tobacco and coffee. Most of the exports go to the United States.

Entrance to Santiago Harbor.

Santiago is the second largest city in Cuba and is the leading port of the eastern province.

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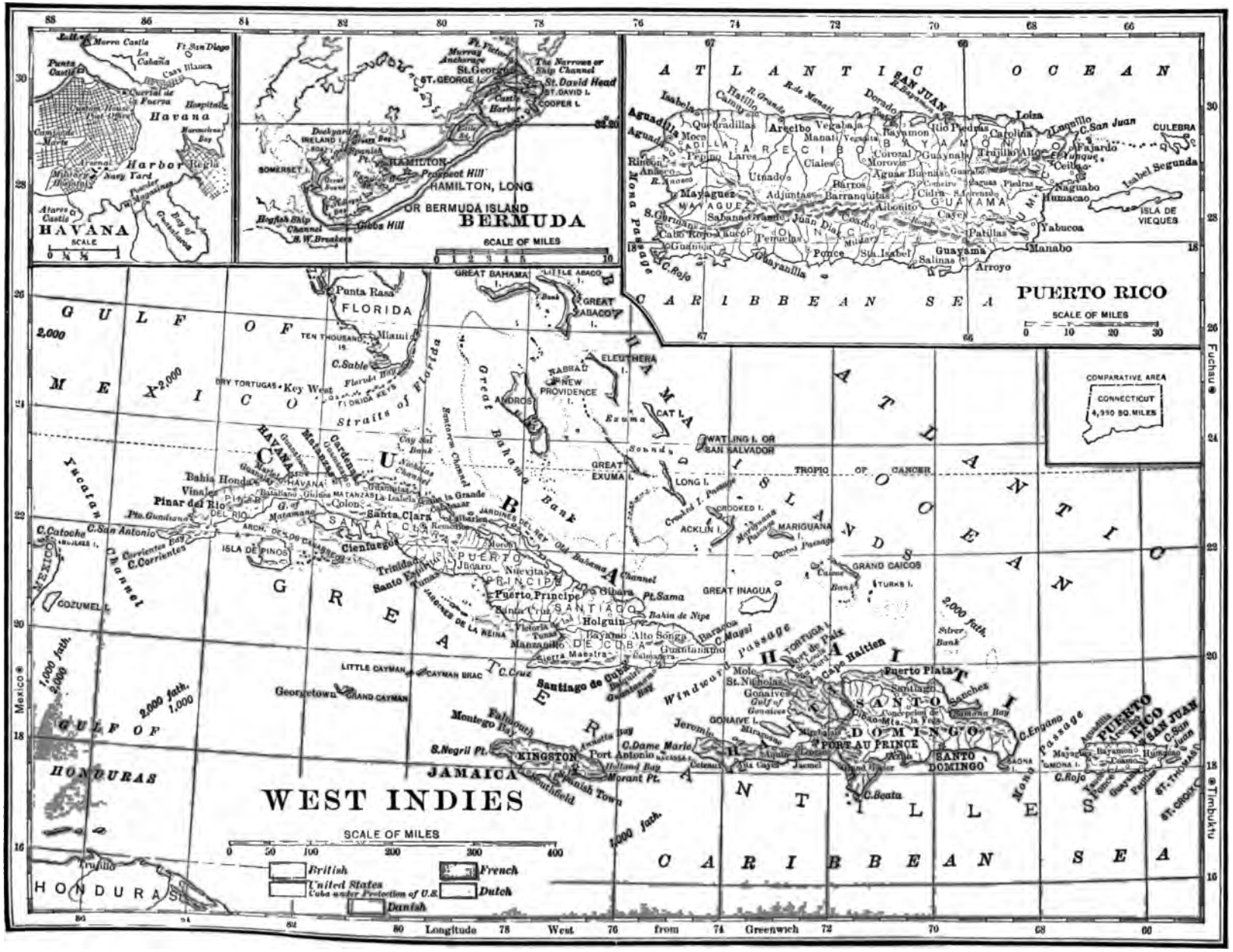

WEST INDIES
HAVANA
Havana
Harbor
SCALE
BERMUDA
HAMILTON, LONG
OR BERMUDA ISLAND
SCALE OF MILES
PUERTO RICO
SCALE OF MILES
ATLANTIC OCEAN
CARIBBEAN SEA
GULF OF MEXICO
GREAT ANTILLES
LESSER ANTILLES
BAHAMA ISLANDS
CUBA
HAITI
SANTO DOMINGO
JAMAICA
HONDURAS
FLORIDA
COMPARATIVE AREA
CONNECTICUT
4,990 SQ. MILES
SCALE OF MILES
British
United States
Cuba under Protection of U.S.
Danish
French
Dutch
Longitude 78 West 76 from 74 Greenwich 72

There are several other large ports on fine harbors.

PUERTO RICO. Puerto Rico[1] has in general the shape of a rectangle. It is about 90 miles long and 36 miles broad, with an area about three fourths as great as Connecticut.

Cutting Sugar Cane, Puerto Rico.

The inland regions are mostly hilly, with wooded ridges running east and west, sending small rivers to the seacoast on all sides. A broad belt of coastal lands consists of level tracts broken here and there by uneven ridgy areas.

Puerto Rico, like Cuba, is in the hot belt and has the same wet and dry seasons; but the former is noted for its healthful climate in contrast with other islands of the West Indies. The river valleys and coast plains are very fertile and contain most of the cities and towns. By far the most valuable product is coffee, which thrives on the hillsides. Next in value is sugar; molasses and tobacco are valuable exports.

The small island of Puerto Rico contains half as many people as Cuba. This fact shows that the former island is the better cultivated. The total is between 800,000 and 900,000 people; one third of these are Negroes, mostly descendants of former slaves.

San Juan is the capital and chief city, though not the largest. It is built on a fine harbor on the north coast. A military road has been built from San Juan to **Ponce**, a port on the south coast.

HAWAII. Far out in the Pacific, in about the same latitude as Cuba and Puerto Rico, lie the islands of the Hawaiian group. There are eight principal islands and many rocky islets. The total area is about 6500 square miles. The whole group is often called *Hawaii*, and there is also one large island of the same name.

The islands are of volcanic origin and are built up from the bottom of the deep sea. On the island of Hawaii rise two of the highest peaks in all the Pacific isles — the volcanoes of Mauna Kea and Mauna Loa. The latter is active, and on its east slope is also the huge, active crater of

Government Building, Honolulu.

[1] The name *Porto Rico* is often used. This is a corrupt form of the Spanish name *Puerto Rico*, meaning *rich port*. The United States Board on Geographic Names has ruled that the correct form is *Puerto Rico*.

Kilauea, world-famed for its size and for its lake of molten lava.

Though most parts of the islands are rugged with cones, ridges and other forms of lava flows, there are also many open valleys of great fertility. The rich soil is well watered. Tropical fruits abound. Sugar and rice are the chief exports.

Shrimp Fisher, Hawaii.

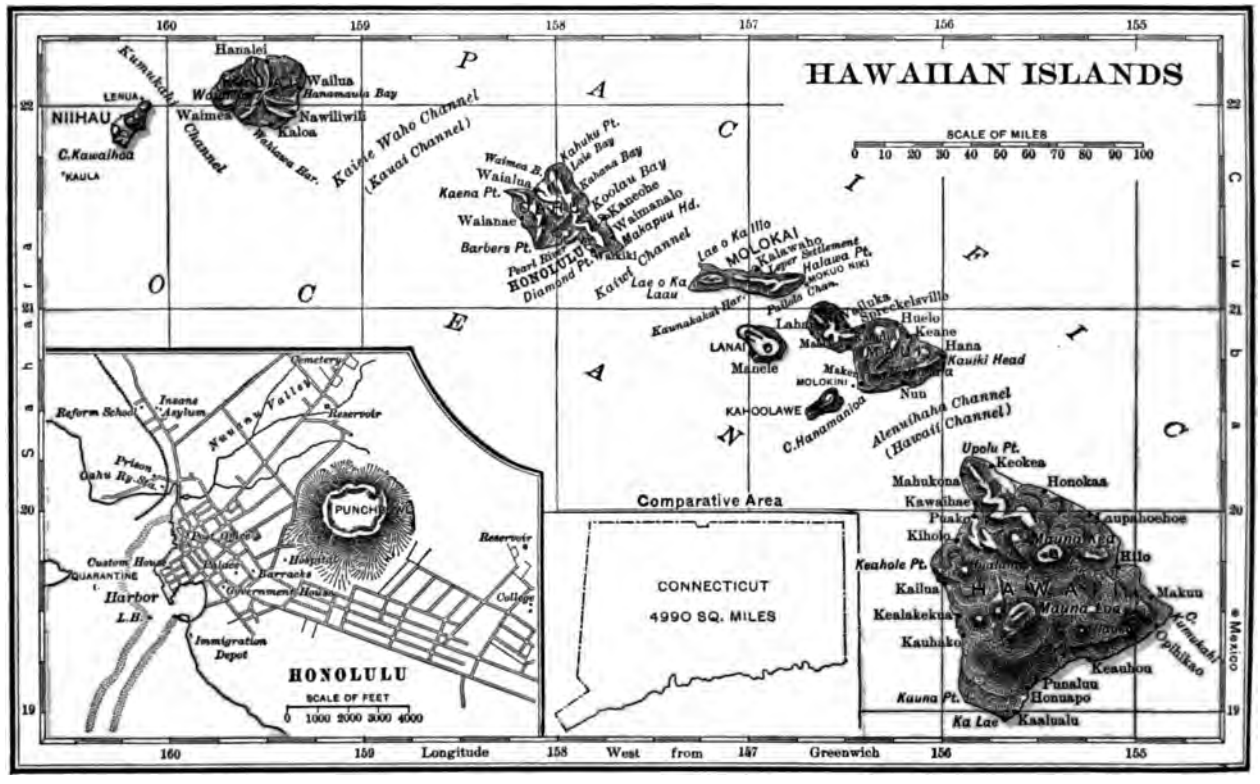
Native Girls, Hawaii.

The natives of Hawaii are a peaceable and happy race. In features they are like the brown people of whom we have read, but are more intelligent than any other natives of Pacific islands. They belong to the same race as the Filipinos. There are now more than 100,000 people in the islands, but less than one third are brown natives. The others belong to the white and the yellow races — the latter being from Japan and China. There are twice as many yellow people as white.

Various chiefs, kings and queens ruled Hawaii until July 4, 1894, when the white people of the islands took charge of the islands. In 1898 they were annexed to the United States.

Honolulu is the capital and chief port. It is on a fine harbor of the island of Oahu. This city has good schools, beautiful public buildings and homes, as well as electric lights and tramways. Steamers run from this port to San Francisco and to ports of the Old World.

PHILIPPINES. At the close of the war with Spain, a large group of islands, known as the *Philippines*, came under the care of our country.



Hawaiian Islands.

They are southeast of Asia and have a climate like that of the West Indies. The islands are largely built of volcanic rock and contain active craters. The highlands extend chiefly north and south. There are many valleys, slopes and plains with very rich soil. Lakes, rivers and small streams abound.

There are eleven large islands and several hundred smaller ones in the group. Luzon is the largest, with an area nearly equal to that of Cuba. Mindanao is next in size.

With plenty of heat and moisture, the islands are covered with many forms of plant life. Trees of various kinds yield dyes, gums and cabinet woods. Cocoanut palms and bamboo thrive there. Tobacco and sugar are leading products; but the staples for which the islands have long been noted are fine tobacco and *Manila hemp*, the latter being a fiber used for making rope and twine. It is not true hemp, but is the fiber of a kind of banana plant. Large crops of rice furnish food for many people. Fruits grow wild all over the islands.

The Philippines have few kinds of large, wild animals. The buffalo, not the bison of our country, is found in both the wild and the tame state.

Street Scene in Manila.

The tame buffalo is the most useful beast of burden in the islands. It is used to draw rude plows and carts, as well as to carry loads on its back. Sheep and goats are reared. Monkeys, huge bats, birds, snakes and insects abound.

The earliest people in the Philippines may have been the *Negritos* — a dwarfish black race now found in the mountains of Luzon and Negros

Philippine Natives (or Pilipinos) and Buffalo.

islands. They were long ago hunted from the lowlands by stronger people of the brown race, and now wander over the ranges and through the forests, without fixed homes, eating wild fruits and sleeping wherever they may be when darkness comes on.

There are seven or eight million natives in the islands, and nearly all belong to the brown race. Most of them are peaceable, kind and honest. The brown people of the towns and cities are bright and intelligent; but the forest and mountain tribes are "simple children of nature." On many of the islands the natives are little known, and some of them are savages.

Many of the tribes of the interior live on wild fruits and game, with little thought of tilling the soil. The lance, bow and arrows are native weapons. During the dry season entire tribes wander through the forests, sleeping in the open air; others make rude huts; still others settle in villages and make huts of bamboo, palm or rattan.

Many Chinese have settled in the larger towns and cities. They are thrifty and carry on most of the local trade and banking. A few thousand Spanish and other people of the white race live in the large cities.

Manila is the capital and largest city. It is on a fine bay at the mouth of the Pasig river, and carries on the greater part of the foreign trade of the islands. The second port in importance is **Iloilo**, on the island of Panay.

GUAM. Almost due east of Manila, about 1600 miles out in the Pacific, rises the island of Guam. It is one of a group called the *Ladrones*, or *thieves'* islands. The climate and products resemble those of Hawaii. Guam is only 30 miles long (*see inset on map*); its chief town is **Agaña**. There are only a few thousand people on the island, and one half of them are in this town. At the close of the war with Spain, Guam was ceded to the United States. It will be used as a coaling station and base of supplies for ships of our navy.

PHILIPPINE ISLANDS
SCALE OF MILES
0 50 100
COMPARATIVE AREA
CONNECTICUT
4990 SQ MILES
Balintang Channel
BABUYAN IS.
C. Bojeador
C. Engano
Vigan
Tuguegarao
Bolinao
Baguio
Lingayen
Bongobong
LUZON
Iba
Subic
Malolos
Bulacan
MANILA
POLILLO I.
CORREGIDOR I.
Cavite
Taal
Batangas
LUBANG I.
GOLO I.
MARINDUQUE
Mt. Halcon
MINDORO
Mindoro Strait
BURIAS I.
ROMBLON I.
Mangarin
TABLAS I.
CALAMIANES IS.
SEMIRARA
Pandan
Capiz
PANAY
Iloilo
CUYOS IS.
CUYO I.
Taitai
DUMARAN I.
Cuyo Chan.
GUIMARAS I.
Malaspina
NEGROS
Dumaguete
Tolon
CAGAYAN IS.
Victoria Mt.
PALAWAN I.
(PARAGUA)
Puerto Princesa
GALABAC I.
S. MIGUEL IS.
Balabac Str.
CAGAYAN SULU I.
BOUNDARY OF U.S. POSSESSIONS
BRITISH NORTH BORNEO
TAWITAWI
SULU ARCHIPELAGO
Sulu
SULU I.
Zamboanga
Basilan Str.
BASILAN I.
Dapitan
Mt. Malindang
MINDANAO
Cotta Bato
Davao
Mt. Apo
Lake Lanao
Cagayan
Pt. Tinaca
BARANGANI IS.
CELEBES SEA
SULU SEA
SOUTH CHINA SEA
PACIFIC OCEAN
Balangan
Orion
MANILA
Manila Bay
Cavite
CORREGIDOR I.
Bataan
Bataan Pen.
Bataan Bay
Bataan Str.
Bataan Mt.
Bataan Fort
Bataan Fort
Bataan Fort

SUPPLEMENT.

Population of the Principal Cities of the World.

NORTH AMERICA.

British America.

Year.		Population.
1891	Montreal	217,000
1891	Toronto	181,000
1891	Quebec	63,000
1891	Hamilton	49,000
1891	Ottawa	44,000
1891	St. John	39,000
1891	Halifax	39,000
1891	London	32,000
1891	St. John's	29,000
1891	Winnipeg	26,000
1891	Victoria	17,000

Central America.

1895	Guatemala	65,000
1895	Leon	35,000
1893	San Salvador	20,000
1897	San José	20,000
1895	Managua	18,000

Mexico.

1895	Mexico	344,000
1895	Guadalajara	84,000

United States.

See page iv.

West Indies.

1892	Havana	225,000
1892	Santiago	71,000
1894	Port au Prince	50,000
1893	Kingston	47,000
1892	Matanzas	27,000
1892	Cienfuegos	27,000

SOUTH AMERICA.

Argentina.

1895	Buenos Ayres	691,000
1895	Córdova	43,000
1895	La Plata	43,000

Bolivia.

1895	La Paz	40,000
1894	Sucre	20,000

Brazil.

1892	Rio Janeiro	522,000
1892	Pernambuco	190,000
1892	Bahia	200,000
1892	Pará	40,000

Chile.

1890	Santiago	250,000
1890	Valparaiso	150,000

Colombia.

1886	Bogotá	120,000
1886	Panama	30,000

Ecuador.

1897	Quito	80,000
1897	Guayaquil	50,000

Guiana.

1891	Georgetown	53,000
1892	Paramaribo	29,000
1895	Cayenne	11,000

Paraguay.

1895	Asuncion	45,000

Peru.

Year.		Population.
1895	Lima	162,000
1895	Callao	38,000
1895	Arequipa	32,000
1895	Cuzco	19,000

Uruguay.

1893	Montevideo	226,000

Venezuela.

1891	Carácas	73,000
1891	Valencia	39,000
1891	Maracaibo	34,000

EUROPE.

Austria-Hungary.

1890	Vienna	1,364,000
1890	Budapest	506,000
1890	Prague	184,000
1890	Trieste	158,000

Belgium.

1895	Brussels	518,000
1895	Antwerp	262,000
1895	Liége	163,000
1895	Ghent	157,000

Balkan States.

1895	Constantinople	900,000
1890	Bukharest	195,000
1895	Salonica	150,000
1889	Athens	107,000
1893	Sofia	47,000

Denmark.

1890	Copenhagen	375,000

England and Wales.

1898	London	4,463,000
1898	Liverpool	633,000
1898	Manchester	534,000
1898	Birmingham	505,000
1898	Leeds	409,000
1898	Sheffield	351,000
1898	Bristol	232,000
1898	Bradford	231,000
1898	Cardiff	170,000

France.

1896	Paris	2,537,000
1896	Lyon	466,000
1896	Marseille	442,000
1896	Bordeaux	256,000
1896	Lisle	216,000
1896	Toulouse	150,000
1896	Havre	120,000

Germany.

1895	Berlin	1,677,000
1895	Hamburg	625,000
1895	Munich	407,000
1895	Leipzig	398,000
1895	Breslau	373,000
1895	Dresden	334,000
1895	Cologne	321,000

Ireland.

1891	Belfast	256,000
1891	Dublin	245,000
1891	Cork	75,000
1891	Limerick	37,000

Italy.

Year.		Population.
1894	Naples	527,000
1894	Rome	463,000
1894	Milan	443,000
1894	Turin	345,000
1894	Palermo	280,000
1894	Genoa	220,000
1894	Florence	204,000
1894	Venice	153,000

Netherlands.

1896	Amsterdam	456,000
1896	Rotterdam	276,000
1896	The Hague	186,000

Norway and Sweden.

1895	Stockholm	272,000
1891	Christiania	151,000
1895	Gottenborg	115,000
1891	Bergen	54,000

Portugal.

1895	Lisbon	275,000
1895	Oporto	112,000

Russia.

1897	St. Petersburg	1,267,000
1897	Moscow	989,000
1897	Warsaw	615,000
1897	Odessa	404,000
1897	Riga	283,000

Scotland.

1898	Glasgow	715,000
1898	Edinburgh	292,000
1898	Dundee	160,000

Spain.

1895	Madrid	484,000
1895	Barcelona	280,000
1895	Valencia	175,000
1895	Málaga	138,000

Switzerland.

1893	Zurich	103,000
1893	Geneva	79,000
1893	Basel	75,000
1893	Bern	48,000

ASIA.

Asiatic Russia.

1897	Tiflis	160,000
1897	Tashkend	156,500
1897	Baku	112,000
1897	Irkutsk	60,000

China.

1893	Canton	1,800,000
1893	Pekin	1,000,000
1893	Tientsin	950,000
1893	Hankow	800,000
1893	Fuchau	640,000
1893	Shanghai	400,000

British India.

1891	Calcutta	862,000
1891	Bombay	822,000
1891	Madras	453,000
1891	Hyderabad	415,000
1891	Lucknow	273,000

British India (Continued).

Year.		Population.
1891	Benares	219,000
1891	Delhi	193,000
1891	Mandalay	189,000
1891	Singapore	185,000
1891	Rangoon	180,000

French Indo-China.

1895	Hanoi	150,000
1895	Hué	150,000
1895	Saigon	85,000

East India Islands.

1894	Manila	290,000
1894	Soerabaya	140,000
1895	Batavia	110,000

Japan.

1894	Tokyo	1,242,000
1894	Osaka	490,000
1894	Kyoto	328,000
1894	Yokohama	106,000

Korea.

1895	Seoul	250,000

Siam.

1895	Bangkok	200,000

Southwest Asia.

1895	Teherân	210,000
1895	Smyrna	200,000
1895	Damascus	200,000
1895	Tabriz	180,000
1895	Bagdad	180,000
1895	Aleppo	130,000
1895	Ispahân	80,000
1895	Kábul	60,000
1895	Kandahár	50,000
1895	Mecca	45,000
1895	Jerusalem	41,000
1895	Herát	30,000

AFRICA.

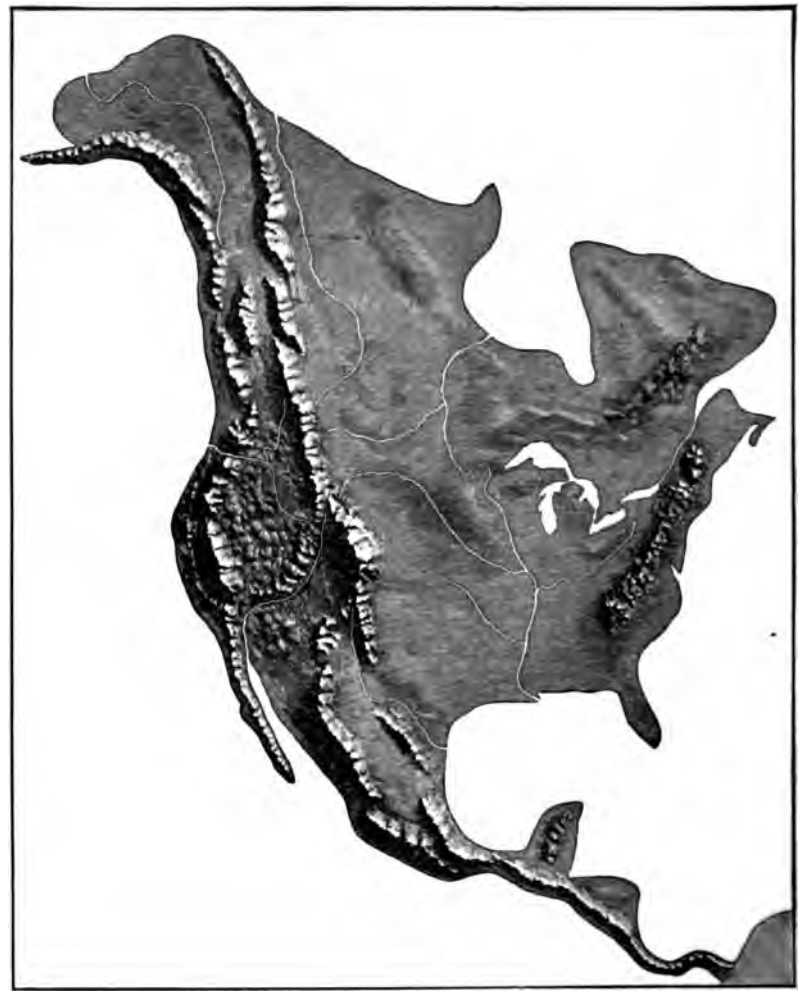
1895	Cairo	418,000
1895	Alexandria	230,000
1895	Fez	140,000
1895	Morocco	140,000
1895	Tunis	125,000
1896	Johannesburg	103,000
1895	Tananarivo	100,000
1891	Algiers	83,000
1891	Cape Town	83,000
1891	Oran	75,000
1895	Kuka	60,000
1895	Zanzibar	30,000
1895	Freetown	30,000
1895	Tangiers	30,000
1895	Tripoli	30,000
1891	Kimberley	29,000
1895	Port Said	18,000
1895	Monrovia	5,000

OCEANIA.

1895	Melbourne	448,000
1895	Sydney	408,000
1896	Adelaide	145,000
1896	Auckland	58,000
1891	Brisbane	49,000
1896	Dunedin	47,000
1896	Wellington	41,000
1897	Honolulu	28,000
1891	Hobart	25,000

COUNTRIES AND COLONIES.

Year.		Area.	Population.
NORTH AMERICA.		**8,000,000.**	**90,000,000.**
1891	Canada	3,450,000	4,833,000
1892	Costa Rica	23,000	243,000
1894	Cuba	43,000	1,632,000
1894	Guatemala	63,000	1,440,000
1894	Haiti	28,000	1,580,000
1889	Honduras	43,000	396,000
1895	Mexico	767,000	12,570,000
1891	Newfoundland	42,000	202,000
1895	Nicaragua	49,500	420,000
1892	Salvador	7,200	780,000
1890	United States	3,556,290	63,006,000
SOUTH AMERICA.		**7,000,000.**	**36,500,000.**
1895	Argentina	1,778,000	4,260,000
1895	Brazil	3,210,000	16,000,000
1891	British Guiana	110,000	285,000
1894	Bolivia	567,000	2,300,000
1895	Chile	294,000	3,413,000
1895	Colombia	514,000	4,000,000
1892	Dutch Guiana	46,000	72,000
1890	Ecuador	120,000	1,275,000
1891	French Guiana	47,000	25,000
1895	Paraguay	98,000	430,000
1894	Peru	464,000	3,000,000
1894	Uruguay	72,000	787,000
1891	Venezuela	594,000	2,324,000
EUROPE.		**3,800,000.**	**360,000,000.**
1890	Austria-Hungary	265,000	42,830,000
1895	Belgium	11,400	6,410,000
1893	Bulgaria	38,000	3,310,000
1890	Denmark	15,300	2,185,000
1891	England	50,800	27,484,000
1896	France	204,000	38,518,000
1895	Germany	208,700	52,279,000
1889	Greece	25,000	2,187,000
1891	Ireland	32,600	4,706,000
1895	Italy	110,000	31,100,000
1896	Netherlands	12,650	4,860,000
1891	Norway	125,000	2,000,000
1894	Portugal	34,000	5,300,000
1893	Roumania	48,300	5,800,000
1897	Russia	2,100,000	126,411,000
1891	Scotland	30,400	4,026,000
1895	Servia	19,000	2,288,000
1895	Spain	198,000	18,000,000
1895	Sweden	173,000	4,919,000
1894	Switzerland	16,000	2,990,000
1895	European Turkey	61,000	4,780,000
1891	Wales	7,400	1,519,000
ASIA.		**17,000,000.**	**850,000,000.**
1895	Afghanistan	212,000	4,000,000
1895	Arabia	1,000,000	2,200,000
1895	Asiatic Turkey	687,000	21,600,000
1895	Baluchistan	130,000	500,000
1895	Chinese Empire	4,218,000	400,000,000
1891	India (British)	1,560,000	300,000,000
1895	Indo-China (French)	138,000	17,000,000
1895	Java	51,000	25,000,000
1895	Japan	148,000	42,000,000
1895	Korea	82,000	10,000,000
1895	Persia	628,000	9,000,000
1895	Philippines	114,000	7,000,000
1893	Russia in Asia	6,500,000	18,125,000
1895	Siam	300,000	5,000,000
AFRICA.		**11,500,000.**	**130,000,000.**
1895	Abyssinia	194,000	4,500,000
1896	Algeria	185,000	4,429,000
1895	Cape Colony	221,000	1,825,000
1895	Egypt	400,000	6,820,000
1895	Kongo State	900,000	30,000,000
1894	Liberia	14,400	1,068,000
1895	Madagascar	228,500	3,500,000
1895	Morocco	220,000	5,000,000
1895	Orange Free State	48,000	208,000
1895	Sahara	2,000,000	2,500,000
1895	Sudan	2,000,000	50,000,000
1896	Transvaal	119,000	600,000
1895	Tripoli	340,000	800,000
1895	Tunis	45,000	1,500,000
OCEANIA.		**3,500,000.**	**6,000,000.**
1890	Hawaii	6,500	90,000
1891	New South Wales	310,700	1,132,000
1896	New Zealand	104,500	703,000
1891	Queensland	668,500	394,000
1891	South Australia	904,000	320,000
1891	Victoria	88,000	1,140,000
1896	West Australia	976,000	53,000



NOTE. The maps of this series, pages ii to v, are inserted as a guide for *teachers* in drawing and modeling. The outlines are so simple that no construction lines are needed. Pupils can easily learn to *sketch* these maps. They are all made on the same area-scale and show the relative sizes of the continents.

Rivers and River Basins.

River.	Area of Basin, Square Miles.	Length in Miles.
Amazon	2,500,000	4,000
Kongo	1,500,000	3,000
Nile	1,400,000	4,000
Mississippi — Missouri	1,250,000	4,200
Plata	1,250,000	2,300
Yangtze	500,000	3,300
Volga	500,000	2,300
Ganges	450,000	1,800
St. Lawrence	350,000	2,000
Danube	300,000	2,000
Orinoco	300,000	1,500
Columbia	250,000	1,400
Colorado	250,000	1,100

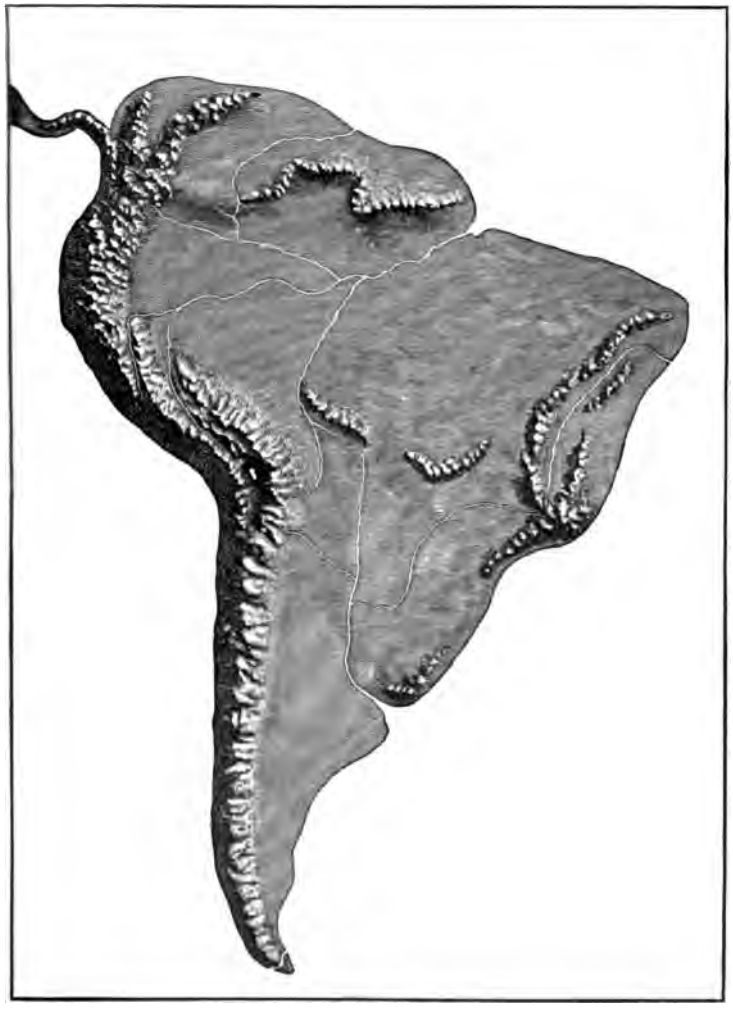
Zones and Circles. (*See page 33.*)

The line round the earth, upon which the vertical rays fall during the first day of our summer, is called the *tropic of Cancer.* During the first day of our winter the sun shines straight down on the *tropic of Capricorn.* The belt of land and water lying between or within the tropics is called the *torrid zone.* The tropics are at about one fourth the distance from the equator to the poles.

Find the *arctic circle* on the map. Find the *antarctic circle.* These circles are at about one fourth the distance from the poles to the equator.

Bound the *north frigid zone.* The *south frigid zone.* The *north temperate.* The *south temperate.*

The number of degrees at which any place lies north or south of the equator is called the *latitude* of that place. The number of degrees at which any place lies east or west of a given prime meridian is called the *longitude* of the place.



The United States.

States.	Square Miles.	Population.
Alabama	52,250	1,513,017
Alaska	531,410	31,795
Arizona	113,020	59,620
Arkansas	53,850	1,128,179
California	158,360	1,208,130
Colorado	103,925	412,198
Connecticut	4,990	746,258
Delaware	2,050	168,493
District of Columbia	70	230,392
Florida	58,680	391,422
Georgia	59,475	1,837,353
Idaho	84,800	84,385
Illinois	56,650	3,826,351
Indiana	36,350	2,192,404
Indian Territory	31,400	186,490
Iowa	56,025	1,911,896
Kansas	82,080	1,427,096
Kentucky	40,400	1,858,635
Louisiana	48,720	1,118,587
Maine	33,040	661,086
Maryland	12,210	1,042,390
Massachusetts	8,315	2,238,943
Michigan	58,915	2,093,889
Minnesota	83,365	1,301,826
Mississippi	46,810	1,289,600
Missouri	69,415	2,679,184
Montana	146,080	132,159
Nebraska	77,510	1,058,910
Nevada	110,700	45,761
New Hampshire	9,305	376,530
New Jersey	7,815	1,444,933
New Mexico	122,580	153,593
New York	49,170	5,997,853
North Carolina	52,250	1,617,947
North Dakota	70,795	182,719
Ohio	41,060	3,672,313
Oklahoma	39,030	61,846
Oregon	96,030	313,767
Pennsylvania	45,215	5,258,014
Rhode Island	1,250	345,506
South Carolina	30,570	1,151,149
South Dakota	77,650	328,808
Tennessee	42,050	1,767,518
Texas	265,780	2,235,523
Utah	84,970	207,905
Vermont	9,565	332,422
Virginia	42,450	1,655,980
Washington	69,180	349,390
West Virginia	24,780	762,794
Wisconsin	56,040	1,686,880
Wyoming	97,890	60,705

Area of Oceans.

	Square Miles.
Pacific	70,000,000
Atlantic	35,000,000
Indian	23,000,000
Antarctic	7,000,000
Arctic	4,000,000

Average Heights of Plateaus.

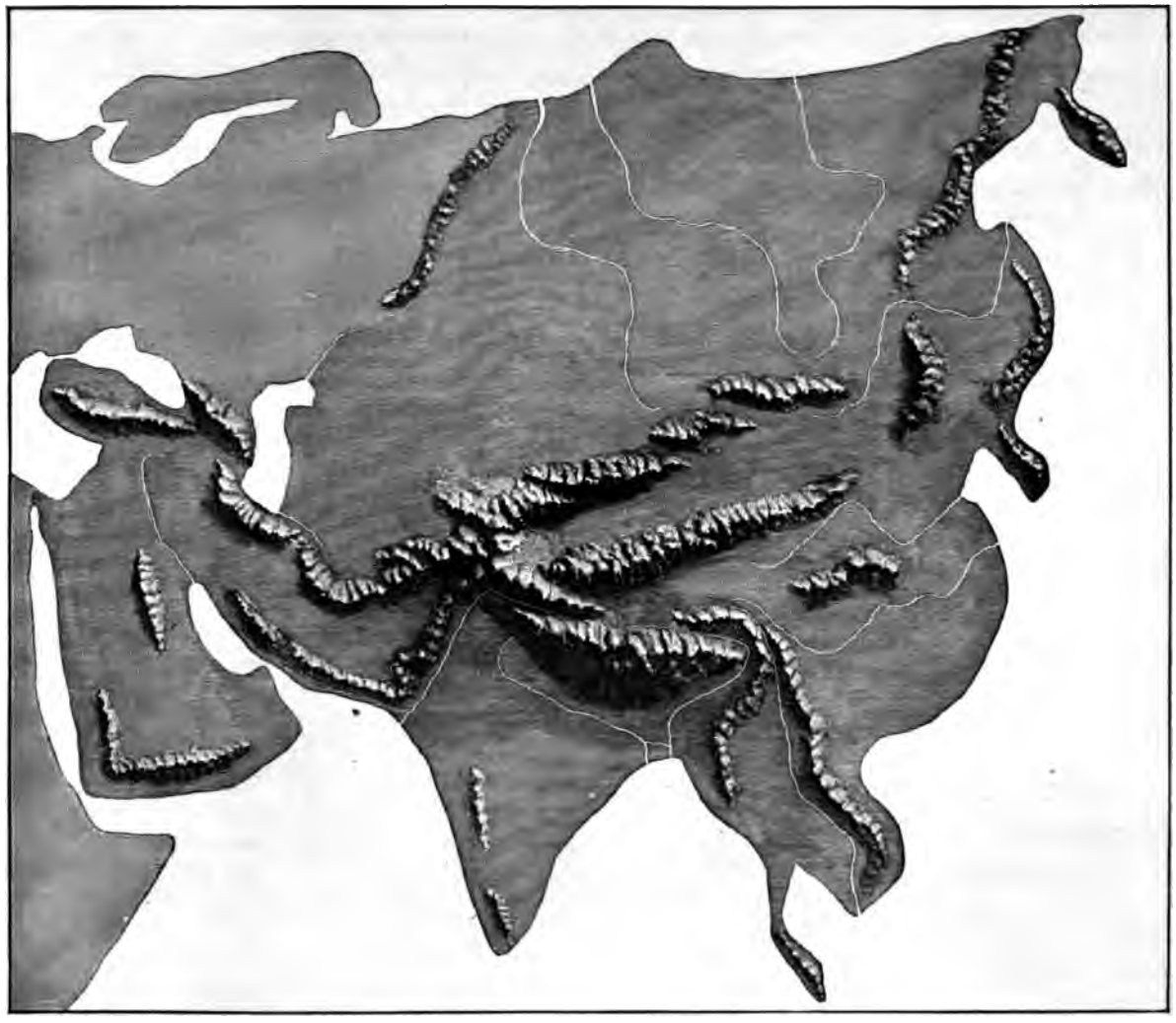
	Feet.
Tibet	14,000
Bolivia	12,000
Mexico	8,000
Abyssinia	7,000
Great Basin	4,000
Gobi	4,000
Brazil	2,000
Switzerland	2,000

Leading Cities of the United States.

Population, 1890 (over 100,000).

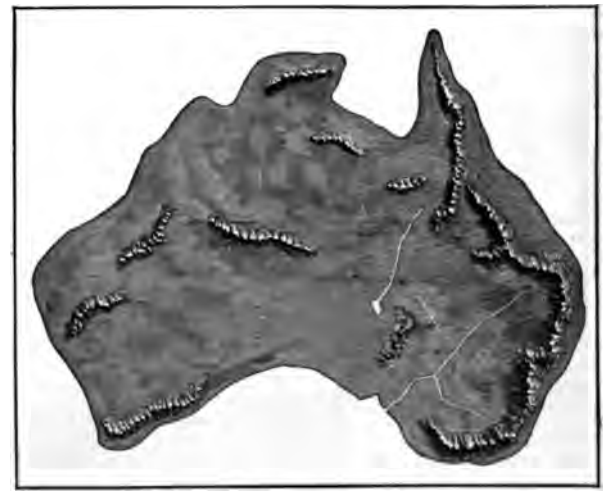
New York, N. Y.	1,515,301
Chicago, Ill.	1,099,850
Philadelphia, Pa.	1,046,964
Brooklyn, N. Y.[1]	806,343
St. Louis, Mo.	451,770
Boston, Mass.	448,477
Baltimore, Md.	434,439
San Francisco, Cal.	298,997
Cincinnati, Ohio	296,908
Cleveland, Ohio	261,353
Buffalo, N. Y.	255,664
New Orleans, La.	242,039
Pittsburg, Pa.	238,617
Washington, D. C.	230,392
Detroit, Mich.	205,876
Milwaukee, Wis.	204,468
Newark, N. J.	181,830
Minneapolis, Minn.	164,738
Jersey City, N. J.	163,003
Louisville, Ky.	161,129
Omaha, Neb.	140,452
Rochester, N. Y.	133,896
St. Paul, Minn.	133,156
Kansas City, Mo.	132,716
Providence, R. I.	132,146
Denver, Colo.	106,713
Indianapolis, Ind.	105,436
Allegheny, Pa.	105,287

[1] On New Year's day, 1898, Brooklyn, Long Island city and several towns were annexed to New York.



Heights of Noted Mountains.

Name.	Location.	Height in Ft.
Aconcagua	Chile	22,422
Ararat	Turkey	17,260
Chimborazo	Ecuador	21,420
Dapsang	Tibet	28,278
Elburz	Russia	18,526
Everest	India	29,002
Kenia	East Africa	18,045
Kilauea	Hawaiian Islands	4,040
Kilimanjaro	East Africa	19,600
Kunchinjunga	India	28,156
Logan	Canada	19,500
Mauna Loa	Hawaiian Islands	13,600
Mitchell	North Carolina	6,711
Mt. Blanc	France	15,810
Orizaba	Mexico	17,380
Pikes peak	Colorado	14,147
Popocatepetl	Mexico	17,784
St. Elias	Alaska	18,010
Shasta	California	14,440
Vesuvius	Italy	3,948
Washington	New Hampshire	6,288
Whitney	California	14,898



PRONOUNCING WORD LIST.

Key: āle, ăt, câre, ärm, final, all; ēve, ĕnd, hĕr, recent; īce, ĭll, admiral; ōld, fôr, ŏn, anchor; ūse, ŭp, fûr, awful; fōōd, fŏŏt; ch *as in* chop; g *as in* go; ng *as in* sing; u *as in* iuk; th *as in* thin; th *as in* the; ñ *as in* banyan; oi *as in* oil; ow *as in* cow; N *nearly like* ng *in* sing (*French nasal*).

Aberdeen, ăb-er-dēn′.
Abyssinia, ăb-ĭs-sĭn′ĭ-a.
Acapulco, ä-kä-pōōl′kō.
Aconcagua, ä-kŏn-kä′gwä.
Adelaide, ăd′e-lād.
Aden, ä′den.
Adirondack, ăd-i-rŏn′dak.
Adrian, ā′drĭ-an.
Adrianople, ăd-rĭ-an-ō′pl.
Adriatic, ăd-rē-ăt′ĭk.
Ægean, ē-jē′an.
Afghánistán, äf-găn-ĭs-tän′.
Africa, ăf′rĭ-ka.
Akron, ăk′ron.
Alabama, ăl-a-bä′ma.
Alamo, ä′lä-mō.
Alaska, ā-lăs′ka.
Albany, al′ba-nĭ.
Albemarle, ăl′be-märl.
Alberta, ăl-bĕrt′a.
Albuquerque, äl-bōō-kār′kā.
Alderney, al′der-nĭ.
Aleutian, ā-lū′shĭ-an.
Alexandria, ăl-ĕgs-ăn′drĭ-a.
Algeria, ăl-jē′rĭ-ä.
Algiers, ăl-jērz′.
Alleghany, ăl′e-gā-nĭ.
Allegheny, ăl′e-gā-nĭ.
Altai, äl-tī′.
Altoona, ăl-tōō′na.
Amazon, ăm′a-zŏn.
Amsterdam, ăm′ster-dăm.
Amur, ä-mōōr′.
Anam, ā-năm′.
Andes, ăn′dēz.
Andorra, än-dōr′rä
Androscoggin, ăn-dros-cŏg′ĭn.
Anglesey, ăn′gl-sē.
Annapolis, ăn-năp′ō-lĭs.
Antarctic, ăn-tärk′tĭk.
Anticosti, ăn-tĭ-kŏs′tĭ.
Antilles, än-tĭl′lēz, *or* ŏN′tēl′.
Antwerp, ănt′werp.
Apalachicola, ä-pa-lăch-ĭ-kō′lä.
Apennines, ăp′en-nĭnz.
Apia, ä′pē-ä.
Appalachian, ăp-pa-lā′chĭ-an.
Appomattox, ăp-pō-măt′toks.
Apteryx, ăp′tē-rĭx.
Arabian, ä-rā′bĭ-an.
Aral, ăr′al.
Ararat, ăr′a-răt.
Archangel, ärk-ān′jĕl.
Archipelago, är-kĭ-pĕl′ä-gō.
Arctic, ärk′tĭk.
Ardennes, är-dĕn′.
Arequipa, ä-rā-kē′pä.
Argentina, är-jĕn-tē′na.
Arizona, ăr-ĭ-zō′na.
Arkansas, är′kan-sa.
Armadillo, är-mä-dĭl′lō.
Arthabaska, är-tha-băs′ka.
Asheville, ăsh′vĭl.
Asia, ā′shĭ-a.
Astoria, ăs-tō′rĭ-a.
Astrakhan, äs-trä-kän′.
Atacama, ä-tä-kä′mä.
Atbara, ät-bä′rä.
Atchison, ăch′ĭ-son.
Athabasca, ăth-a-băs′ka.
Athens, ăth′ĕnz.
Atlanta, ăt-lăn′ta.
Atlantic, ăt-lăn′tĭk.
Atoll, ä-tŏl′.
Auburn, a bûrn.
Auckland, ak′land.
Augusta, a-gŭs′ta.
Au Sable, a sä′bl.
Austin, as′tĭn.
Australia, as-trā′lĭ-a.
Austria, as′trĭ-a.
Avon, ā′von.
Azof, ä-zŏf′.
Azores, a-zōrz′.

Bahama, ba-hä′ma.
Bahia, bä-ē′ä.
Baikal, bĭ′käl.
Baku, bä-kōō′.
Balearic, băl-e-ăr′ĭk.
Balkan, bäl-kän′.
Balkash, bäl-käsh′.
Baltic, bal′tĭk.
Baltimore, bal′tĭ-mor *or* -mōr.
Baluchistan, bä-lōō-chĭs-tän′.
Bangkok, băŋ′kŏk′.
Bangor, băn′gôr.
Barcelona, bär-se-lō′nä.
Basel, bä′zel.
Batavia, bä-tä′vĭ-ä.
Baton Rouge, băt-ŭn rōōzh′.
Bayonne, bā-yŏn′.
Beatrice, bē′a-trēs.
Beaufort, bō′fŏrt (N. C.) *or* bū′-fŭrt (S. C.).
Bechuanaland, bĕk-ū-ăn′a-lănd.
Bedouin, bĕd′ōō-ēn.
Belfast, bĕl′făst (Me.) *or* bĕl-fäst′ (Ireland).
Belgium, bĕl′jĭ-ŭm.
Belgrade, bĕl-grād′.
Belize, bä-lēz′.
Bellaire, bĕl-âr′.
Belle Isle, bĕl-ĭl′.
Benares, bĕn-ä′rĕz.
Bengal, bĕn-gal′.
Ben-Nevis, bĕn-nĕv′ĭs.
Bering, bē′rĭng.
Berlin, bĕr′lĭn *or Ger.* bĕr-lēn′.
Bermuda, ber-mū′da.
Bern, bĕrn.
Bethlehem, bĕth′le-hĕm.
Biddeford, bĭd′e-ford.
Binghamton, bĭng′am-ton.
Binue, bĕn-ōō-ē′.
Birmingham, bĕr′mĭng-ŭm.
Biscay, bĭs′kā.
Bismarck, bĭs′märk.
Bogotá, bō-gō-tä′.
Boise, boi-zā′.
Bokhara, bŏk-ä′rä.
Bolan, bō′lan.
Bolivia, bo-lĭv′ĭ-a.
Bologna, bō-lōn′yä.
Bombay, bŏm-bā′.
Boothia, bōō′thĭ-a.
Bordeaux, bôr-dō′.
Borneo, bôr′nē-ō.
Bosnia, bŏz′nĭ-ä.
Bosphorus, bŏs′fō-rŭs.
Bothnia, bŏth′nĭ-a.
Brahmaputra, brä-ma-pōō′tra.
Brazil, bra-zĭl′.
Brazos, brä′zos.
Bremen, brā′mĕn.
Breslau, brĕs′low.
Brest, brĕst.
Brindisi, brēn′dē-sē.
Brisbane, brĭs′bān.
Brooklyn, brook′lĭn.
Brunswick, brŭnz′wĭk.
Brussels, brŭs′selz.
Budapest, bōō′da-pĕst.
Buenos Ayres, bō′nŭs ā′rĭz *or Sp.* bwā′nōs ī′rĕs.
Bukharest, bū-ka-rĕst′.
Bulgaria, bŏŏl-gā′rĭ-a.
Burlington, bûr′lĭng-ton.
Burma, bûr′mä.
Butte, būt.

Cairo, kār′ō (U. S.); kī′rō (Egypt).
Calais, kăl′ĭs (U. S.); kä-lā′ (France).
Calcutta, kăl-kŭt′ta.
Caledonia, kăl-e-dō′nĭ-a.
California, kăl-ĭ-fôr′nĭ-a.
Callao, käl-lä′ō.
Cambodia, kăm-bō′de-a.
Cambridge, kām′brĭj.
Campêche, käm-pā′chä.
Canada, kăn′a-da.
Candia, kăn′de-ä.
Canton, kăn ton (U. S.); kăn-tŏn′ (China).
Cape Breton, brĕt′on.
Carácas, kä-rä′käs.
Cardiff, kär′dĭf.
Cardigan, kär′dĕ-gan.
Caribbean, kăr-ĭb-bē′an.
Carolina, kăr-ō-lī′na.
Caroline, kăr′ō-lĭn.
Carpentaria, kär-pĕn-tä′re-a.
Cartagena, kär-ta-jē′na.
Caspian, kăs′pĭ-an.
Cassiquiari, kä-sē-kē-ä′rē.
Caucasian, ka-kā′shan.
Caucasus, ka′ka-sŭs.
Cayenne, kā-yĕn′.
Celebes, sĕl′e-bēz.
Cenis, se-nē′.
Cetinje, chā-tēn′yā.
Cévennes, sā-vĕnu′.
Ceylon, sē-lŏn′.
Chad, chäd.
Champlain, shăm-plān′.
Charlotte, shär′lot.
Chatham, chăt′am.
Chattahoochee, chăt-ta-hōō′chē.
Chattanooga, chăt-tă-nōō′ga.
Chautauqua, cha-ta′kwa.
Chelsea, chĕl′sē.
Cherbourg, shĕr′bûrg.
Cherokee, chĕr-ō-kē′.
Chesapeake, chĕs′a-pēk.
Cheviot, chĭv′e-ŭt.
Cheyenne, shĭ-ĕn′.
Chicago, she-ka′gō.
Chile, chē′lā.
Chimborazo, chĭm-bō-rä′zō.
Christiania, krĭs-tē-ä′nē-ä.
Cincinnati, sĭn-sĭn-nä′tĭ.
Clyde, klīd.
Cochin China, kō′chĭn chī′na.
Coeur d'Alene, kûr-dä-lān′.
Cohoes, kō-hōz′.
Colima, kō-lē′mä.
Cologne, kō-lōn′.
Colombia, kō-lŏm′bē-ä.
Colon, kō-lōn′.
Colorado, kŏl-o-rä′dō.
Conception, kon-sĕp′shŭn.
Concord, kŏŋ′kurd.
Connecticut, kŏn-nĕt′ĭ-kŭt.
Constance, kŏn′stans.
Constantinople, kŏn-stăn′tĭ-nō′pl.
Coosa, kōō′sa.
Copenhagen, kō′pen-hā′gen.
Cordoba, kŏr′dō-bä.
Corfu, kŏr-fōō′.
Corinth, kŏr′ĭnth.
Corpus Christi, kôr′pŭs krĭs′tē.
Corrientes, kŏr-rē-ĕn′tēs.
Corsica, kôr′sĭ-ka.
Costa Rica, kŏs′tä rē′kä.
Cotopaxi, kō-tō-păk′sē.
Covington, kŭv′ĭng-ton.
Cuba, kū′ba.
Curaçao, kū-ra-sō′.
Cuzco, kōōs′kō.
Cyprus, sī′prŭs.

Dahomey, dä-hō′mā.
Dakota, da-kō′ta.
Dallas, dăl′as.
Damascus, da-măs′kŭs.
Danzig, dănt′zĭk.
Danube, dăn′ūb.
Dardanelles, där-da-nĕlz′.
Darfur, där′fōōr.
Darien, dā′re-ĕn.
Davenport, dăv′en-pōrt.
Decatur, dē-kā′tur.
Dekkan, dĕk′kan.
Delaware, dĕl′a-wâr.
Delhi, India, dĕl′lē.
Des Moines, de-moin′.
Des Plaines, dā-plān′.
Detroit, de-troit′.
Dnieper, nē′per.
Dniester, nēs′ter.
Dovrefield, dō-vre-fyĕld′.
Drave, drāv.
Dresden, drĕz′den.
Dubuque, dōō-būk′.
Duluth, dū-lōōth′.
Dundalk, dŭn-dak′.
Dundee, dŭn-dē′.
Dunedin, dŭn-ĕd′ĭn.
Dungeness, dŭn-je-nĕs′.
Dwina, dwē′na.

Eau Claire, ō-klâr′.
Ebro, ē′brō.
Echidna, ē-kĭd′na.
Ecuador, ĕk-wä-dōr′.
Edinburgh, ĕd′ĭn-bŭr-ō.
Egypt, ē′jĭpt.
Elba, ĕl′bä.
Elbe, ĕl′be.
Elburz, ĕl-bōōrz′.
Elgin, ĕl′jĭn.
Elmira, ĕl-mī′ra.
El Paso, ĕl pä′sō.
Escanaba, ĕsk-ä-na′ba.
Etna, ĕt′na.
Eubœa, ū-bē′a.

Euphrates, ū-frā′tēz.
Eurasia, ū-rā′shī-ą.
European, ū-rō-pē′ąn.
Evansville, ĕv′ąnz-vĭl.
Everest, ĕv′ęr-ĕst.
Eyre, âr.

Falkland, fąk′ląnd.
Fezzan, fĕz-zän′.
Fiji, fē′jē.
Findlay, fĭnd′lā.
Finland, fĭn′ląnd.
Fiord, fyôrd.
Firth, fĕrth.
Florida, flŏr′ĭ-dą.
Fond du Lac, fŏn-dū-lăk′.
Formosa, fôr-mō′sä.
Fort Wayne, wān.
Frankfurt, fräŋk′foort.
Fraser, frā′zęr.
Fremont, frē-mŏnt′.
Fresno, frĕs′nō.
Fujiyama, foo-jī-ä′mä.

Galapagos, gă-lăp′ā-gōs.
Galatz, gä′läts.
Galveston, găl′vęs-ton.
Galway, gąl′wā.
Ganges, găn′jēz.
Garonne, gä-rōnn′.
Genesee, jĕn-ę-sē′.
Geneva, ję-nē′vą.
Genoa, jĕn′o-ą.
Georgia, jôr′jĭ-ą.
Geral, hä-räl′.
Gettysburg, gĕt′ĭz-bûrg.
Ghats, gäts.
Ghent, gĕnt.
Gibraltar, jĭ-brąl′tąr.
Gila, hē′lä.
Gironde, zhē-rōnd′.
Glasgow, glăs′gō.
Gloucester, glŏs′tęr.
Gobi, gō′bē.
Grampians, grăm′pĭ-ąnz.
Granada, grä-nä′dä.
Grand Manan, mąn-ăn′.
Grätz, grĕts.
Greenwich, grĕn′ĭj.
Guadalquivir, gwä-däl-kē-vēr′.
Guadalupe, gą′dą-loop′ (U. S.); gwä-dä-loo′pā (Spanish).
Guatemala, gwą-tā-mä′lä.
Guayaquil, gwī-ä-kēl′.
Guernsey, gĕrn′zę.
Guiana, gē-ä′nä.
Guinea, gĭn′ē.
Guthrie, gŭth′rę.

Hagerstown, hā′gęrz-town.
Haiti, hā′tĭ.
Halifax, hăl′ę-făks.
Hanoi, hä-nō′ē.
Hanover, hăn′ō-vęr.
Hatteras, hăt′tęr-ąs.
Havana, hą-văn′ą.
Havre, hä′vęr.
Havre de Grace, hăv′ęr dę grās.
Hawaii, hä-wī′ē.
Hebrides, hĕb′rĭ-dēz.
Hekla, hĕk′lą.
Helena, hĕl′ę-ną.
Henlopen, hĕn-lō′pęn.
Herát, hęr-ät′.
Himalaya, hĭm-ä′lą-yą.
Hindu-Kush, hĭn′doo-koosh.
Hindustan, hĭn-do-stän′.
Hoangho, ho-äng-hō′.
Hoboken, hō′bō-kęn.
Holyoke, hōl′yōk.
Hondo, hŏn′dō.
Honduras, hŏn-doo′rąs.
Hongkong, hŏng-kŏng′.
Honolulu, hō-nō-lōo′loo.
Hoosac, hoo′sąk.
Housatonic, hoo-są-tŏn′ĭc.
Houston, hūs′tąn.
Hué, hoo-ā′.
Humboldt, hŭm′bōlt.
Hungary, hŭn′gą-rĭ.
Huron, hū′rąn.

Idaho, ī′dą-hō.
Illimani, ēl-yē-mä′nē.
Illinois, ĭl-lĭ-noi′ *or* -noiz′.
India, ĭn′dĭ-ą.
Indiana, ĭn-dĭ-ăn′ą.
Indianapolis, ĭn-dĭ-ăn-ăp′o-lĭs.
Indes, ĭn′dēz.
Indus, ĭn′dŭs.
Innsbruck, ĭns′prook.
Inverness, ĭn-vęr-nĕss′.
Ionian, ī-ō′nĭ-ąn.
Iowa, ī′ō-wą.
Iquique, ē-kē′kā.
Iran, ē-rän′.
Irkutsk, ĭr-kootsk′.
Isle Royale, ēl rwä-yäl′.
Italian, ĭ-tăl′yąn.
Itasca, ī-tăs′ką.
Ithaca, ĭth′ą-ką.

Jalapa, hä-lä′pä.
Jamaica, ją-mā′ką.
Japan, ją-păn′.
Jassy, yä′sē.
Java, jä′vą.
Jersey, jĕr′zĭ.
Joliet, jō′lę-ĕt.
Joplin, jŏp′lĭn.
Juan de Fuca, hoo-än′ dā foo′kä.
Juan Fernandez, fĕr-nän′dĕth.
Juneau, jū-nō′.
Jungfrau, yoong′frow.
Juniata, jū-nĭ-ăt′ă.
Jura, jū′rä.

Kabul, kä-bool′.
Kadiak, kăd-yăk′.
Kaffir, kăf′fĕr.
Kalahari, kä-lä-hä′rĭ.
Kamchatka, käm-chät′ką.
Kamerun, kä-mā-roon′.
Kanawha, ką-ną′wą.
Kankakee, kăŋ-ką-kē′.
Kansas, kăn′sąs.
Karakoram, kä-rä-kō′rąm.
Karpathian, kär-pā′thĭ-ąn.
Kashmir, kăsh-mēr′.
Kenia, kā-nē′ä.
Kennebec, kĕn-ę-bĕk′.
Kentucky, kĕn-tŭk′ĭ.
Keokuk, kē′ō-kŭk.
Khaibar, kä′ē-bär.
Khartum, kär-toom′.
Khelat, kęl-ät′.
Khinghan, kĭn-gän′.
Khiva, kē′vä.
Kilauea, kē-low-ā′ä.
Kilimanjaro, kĭl′ē-män-jä-rō′.
Killarney, kĭl-är′nĭ.
Kiolen, kyû′lęn.
Kirghiz, kĭr-gēz′.
Kittery, kĭt′ęr-ĭ.
Klamath, klä′mąth.
Klondike, klŏn′dĭk.
Knoxville, nŏks′vĭl.
Kongo, kŏŋ′gō.
Kordofan, kôr-dō-fän′.
Korea, kō-rē′ą.
Krakow, krā′kō.
Kronstadt, krŏn′stät.
Kuenlun, kwĕn-loon′.
Kyoto, kē-ō′tō.

Labrador, lăb-rą-dôr′.
Lachine, lä-shēn′.
La Crosse, lą-krŏs′.
Ladoga, lăd′ō-gą.
Ladrones, lą-drōnz′.
Lafayette, lä-fā-ĕt′.
La Guaira, lä-gwī′rä.
Lancaster, lăŋk′ąs-tęr.
Lansing, lăn′sĭng.
La Paz, lä-päth′.
Lapland, lăp′ląnd.
La Plata, lä-plä′tä.
Laporte, lą-pōrt′.
Laramie, lăr′ą-mē.
Lasalle, lą-săl′.
Lassa, läs′sä.
Las Vegas, läs-vā′gäs.
Leadville, lĕd′vĭl.
Leavenworth, lĕv′ęn-węrth.
Lebanon, lĕb′ą-nąn.
Leicester, lĕs′tęr.
Leipzig, līp′zĭk.
Lena, lē′na.
Leone, lē-ō′nē.
Lexington, lĕk′sĭng-tąn.
Liberia, lī-bē′rĭ-ą.
Libyan, lĭb′ę-ąn.
Liége, lē-āzh′.
Lima, lī′mą (U. S.); lē′mä (Peru).
Limerick, lĭm′ęr-ĭk.
Lisbon, lĭz′bąn.
Lisburn, lĭs′bûrn.
Lisle, lēl.
Liverpool, lĭv′ęr-pool.
Loanda, lō-än′dä.
Loch, lŏk.
Lofoden, lō-fō′dęn.
Loire, lwär.
Los Angeles, lōs-ăn′gĕl-ĕs.
Louisiana, loo-ē-zē-ä′na.
Louisville, loo′ĭs- *or* loo′ĭ-vĭl.
Lourenço Marques, lō-rĕn′sō märkĕs′.
Lucerne, loo-sĕrn′.
Luray, lū-rā′.
Luxemburg, lŭks′ĕm-bûrg.
Luzon, loo-zōn′.
Lyon, lī′ŏn.

Macao, mä-kow′.
Mackenzie, mą-kĕn′zĭ.
Mackinac, măk′ĭ-nąą.
Macon, mā′kąn.
Madagascar, măd-ą-găs′kąr.
Madeira, mą-dē′rą.
Madras, mą-drăs′.
Madrid, măd′rĭd (U. S.); mą-drĭd′ (Spain).
Magdalena, măg-dä-lā′nä.
Magellan, mą-jĕl′ąn.
Maine, mān.
Makassar, mą-käs′sąr.
Malakka, mą-lăk′ą.
Malay, mą-lāy′.
Malden, mŏl′dęn.
Manchester, măn′chęs-tęr.
Manchuria, măn-choo′rę-ą.
Mandalay, măn′dä-lā.
Manila, mą-nĭl′ą.
Manitoba, măn-ĭ-tō′bä.
Maracaibo, mä-rä-kĭ′bō.
Marañon, mä-rän′yōn.
Marathon, măr′ą-thŏn.
Marcy, mär′sĭ.
Marmora, mär′mo-rą.
Marseille, mär-sāl′.
Martinique, mär-tĭ-nēk′.
Maskat, măs-kăt′.
Massachusetts, măs-ą-chū′sęts.
Matabeleland, măt-ą-bēl′lănd.
Matagorda, măt-ą-gôr′dą.
Matamoros, măt-ą-mō′rąs.
Matapan, mä-tä-pän′ (Gr.).
Mauch Chunk, mąk-chŭŋk′.
Mauna Kea, mow′nä-kā′ä.
Mauna Loa, lō′ä.
Mauritius, mą-rĭsh′ĭ-ŭs.
Mediterranean, mĕd′ĭ-tęr-rā′nę-ąn.
Mekong, mā-kŏng′.
Melanesia, mĕl-ąn-ē′shĭ-ą.
Melbourne, mĕl′bûrn.
Memphremagog, mĕm-frę-mā′gŏg.
Memphis, mĕm′fĭs.
Mendocino, mĕn-dō-sē′nō.
Meriden, mĕr′ĭ-dĕn.
Merrimac, mĕr′ĭ-măk.
Mersey, mĕr′zĭ.
Merthyr-Tydfil, mĕr-thęr-tĭd′fĭl.
Messina, mĕs-sē′nä.
Metz, mĕts.
Mexico, mĕks′ĭ-kō.
Miami, mī-ăm′ĭ.
Michigan, mĭsh′ĭ-gąn.
Micronesia, mī-krō-nē′shĭ-ą.
Milan, mĭl′ąn *or* mĭ-lăn′.
Mille Lacs, mēl-läk′.
Milo, mē′lō (Greece).
Milwaukee, mĭl-wą′kē.
Mindanáo, mēn-dä-nä′ō.
Minneapolis, mĭn-ę-ăp′o-lĭs.
Minnehaha, mĭn-ę-hä′hä.
Minnesota, mĭn-ę-sō′tą.
Mississippi, mĭs-ĭs-ĭp′ĭ.
Missouri, mĭs-oo′rĭ.
Mobile, mō-bēl′.
Mohave, mō-hä′vā.
Mohawk, mō′hąk.
Moluccas, mō-lŭk′kąz.
Mongolia, mŏn-gō′lĭ-ą.
Monongahela, mō-nŏn-gą-hē′lą.
Monrovia, mŏn-rō′vĭ-ą.
Montana, mŏn-tä′ną.
Montauk, mŏn-tąk′.
Mont Blanc, mōN blŏN′ *or* mŏnt blăŋk.
Mont Cenis, mōN′ sę-nē′ *or* mŏnt.
Montenegro, mŏn-tā-nā′grō.
Monterey, mŏn-tę-rā′.
Montevideo, mŏn-tē-vĭd′ē-ō.
Montgomery, mąnt-gŭm′ęr-ĭ.
Monticello, mŏn-tē-sĕl′lō.
Montpelier, mŏnt-pē′lĭ-ęr.
Montreal, mŏnt-rę-ąl′.
Moravia, mō-rā′vĭ-ą.
Morelia, mō-rā′lē-ą.
Morocco, mō-rŏk′ō.
Moscow, mŏs′kō.
Mount Lyell, lī′ĕl.
Mount St. Elias, ę-lī′ąs.
Mount Tyndall, tĭn′dąl.
Mozambique, mō-ząm-bēk′.
Munich, mū′nĭk.
Murray, mŭr′rā.
Muskatine, mŭs-ką-tēn′.
Muskegon, mŭs-kē′gąn.

Nanling, nän′lĭng.
Nantes, nănts.
Nantucket, năn-tŭk′ęt.
Naples, nā′plz.
Narragansett, năr-rą-găn′sęt.
Nashua, năsh′ū-ą.
Nassau, năs′ą.
Natchez, nă′chęz.
Nebraska, nę-brăs′ką.
Nepal, nā-päl′.
Netherlands, nĕth′ęr-ląndz.
Neuse, nūs.
Nevada, nę-vä′dą.
Newark, nū′ąrk.
Newfoundland, nū′fąnd-ląnd.
New Hampshire, nū-hămp′shir.
New Orleans, -ôr′lę-ąnz.
Newport, nū′pōrt.
New Zealand, nū-zē′ląnd.
Niagara, nī-ăg′ą-rą.
Nicaragua, nē-kä-rä′gwä.
Nice, nēs.
Niger, nī′jęr.
Norfolk, nôr′fąk.
Norwegian, nŏr-wē′jĭ-ąn.
Norwich, nŏr′rĭj.
Nottingham, nŏt′ĭng-ąm.
Nova Scotia, nō′vą skō′shĭ-ą.
Nova Zembla, nō′vą zĕm′blą.
Nubia, nū′bĭ-ą.
Nyanza, nī-än′zą.

Oahu, ō-ä′hoo.

Oakland, ōk′lạnd.
Oasis, ō′ā-sĭs.
Ob, ŏb.
Oder, ō′dẹr.
Odessa, ō-dĕs′sạ.
Ogden, ŏg′dĕn.
Okechobee, ō-kē-chō′bē.
Okhotsk, ō-kōtsk′.
Oklohoma, ōk-lä-hō′mạ.
Olympia, ō-lĭm′pĭ-ạ.
Olympus, ō-lĭm′pŭs.
Omaha, ō′mạ-hạ.
Oman, ō-män′.
Omsk, ŏmsk.
Onega, ō-nē′gạ.
Oneida, ō-nī′dạ.
Ontario, ŏn-tā′rĭ-ō.
Oregon, ŏr′ẹ-gŏn.
Orinoco, ō-rĭ-nō′kō.
Orizaba, ō-rē-thä′bä.
Orkney, ôrk′nē.
Orleans, ôr-lā-ŏɴs′ (*Fr.*).
Ornithorynchus, ôr-nĭ-thō-rĭn′kŭs.
Oshkosh, ŏsh′kŏsh.
Oswego, ŏs-wē′gō.
Ottawa, ŏt′tạ-wạ.
Ozark, ō-zärk′.

Pacific, pạ-sĭf′ĭk.
Palermo, pạ-lẽr′mō.
Palestine, păl′ẹs-tīn.
Pamir, pä-mēr′.
Pamlico, păm′lĭ-kō.
Pampas, päm′päs.
Panama, păn-ạ-mä′.
Papua, păp′ōō-ạ.
Pará, pä-rä′.
Paraguay, pä-rä-gwī′.
Paramaribo, păr-ạ-măr′ĭ-bō.
Parana, pä-rä-nä′.
Passaic, păs-sā′ĭk.
Passamaquoddy, păs-ạ-mạ-kwŏd′ĭ.
Patagonia, păt-ạ-gō′nĭ-ạ.
Paterson, păt′ẹr-sọn.
Patras, pä-träs′.
Pawtucket, pạ-tŭk′ẹt.
Pecos, pā′kōs.
Pedee, pē-dē′.
Pekin, pē-kĭn′.
Peling, pē-lĭng′.
Pennsylvania, pĕn-sĭl-vā′nĭ-ạ.
Penobscot, pẹ-nŏb′scọt.
Pensacola, pĕn-sạ-kō′lạ.
Pentland, pĕnt′lạnd.
Peoria, pē-ō′rĭ-ạ.
Pernambuco, pĕr-näm-bōō′kō.
Persia, pẽr′shĭ-ạ.
Perth, pẽrth.
Peru, pẹ-rōō′.
Phenix, fē′nĭks.
Philadelphia, fĭl-ạ-dĕl′fĭ-ạ.
Philippine, fĭl′ĭp-ĭn.
Pierre, pẽr.
Pindus, pĭn′dŭs.
Pittsburg, pĭts′bûrg.
Plata, plä′ta.
Plymouth, plĭm′ŭth.
Pnom Penh, p'nŭm-pĕn′.
Pompeii, pŏm-pā′yē.
Popocatepetl, pō-pō′kăt-ā-pā-tl.
Port au Prince, pōrt-ō-prĭns′.
Port Said, -sä-ēd′.
Portsmouth, pōrts′mŭth.
Portugal, pōr′tū-gạl.
Portuguese, pōr′tū-gēz.
Potomac, pō-tō′mạk.
Potosi, pō-tō′sĭ.
Poughkeepsie, pọ-kĭp′sĭ.
Prague, prāg.
Pretoria, prē-tôr′ē-ạ.
Pribilof, prē-bē-lŏf′.
Providence, prŏv′ĭ-dẹns.
Prussia, prŭsh′yạ.
Puebla, pwĕb′lä.
Pueblo, pwĕb′lō.
Puerto Rico, pwĕr′tō rē′kō.
Puget, pū′jẹt.
Puno, pōō′nō.
Pyrenees, pĭr′ẹ-nēz.

Quebec, kwẹ-bĕk′.
Quincy, kwĭn′zĭ.
Quito, kē′tō.

Racine, rạ-sēn′.
Rainier, rā′nẽr.
Raleigh, rạ′lạ.
Rangoon, răn-gōōn′.
Rappahannock, răp-ạ-hăn′ọk.
Ravenna, rạ-vĕn′ạ.
Reading, rĕd′ĭng.
Rhine, rĭn.
Rhone, rōn.
Riga, rī′gạ (U. S.); rē′gä (Rus.).
Rio Grande, rē′ō grän′dā.
Rio Janeiro, -zhä-nā′ē-rō.
Rio Negro, -nā′grō.
Roanoke, rō-ạ-nōk′.
Rochester, rŏch′ẹs-tẹr.
Rotterdam, rŏt′ẹr-dăm.
Rouen, rōō′ŏɴ′.
Roumelia, rōō-mē′lẹ-ạ.
Roumania, rōō-mā′nị-ạ.
Russia, rŭsh′ạ.

Saco, sạ′kō.
Sacramento, săk-rạ-mĕn′tō.
Saginaw, săg′ĭ-nạ.
Sahara, sä-hä′rạ.
Saigon, sä′ē-gŏn.
Saint Albans, sānt ạl′bạnz.
Saint Augustine, -ạ′gŭs-tēn.
Saint Croix, -kroi′.
Saint Gotthard, -gō-tärd′.
Saint Helena, sĕnt hẹ-lē′nạ.
Saint Lawrence, sānt lạ′rẹns.
Saint Louis, -lōō′ĭs *or* -lōō′ĭ.
Saint Petersburg, -pē′tẹrz-bûrg.
Saint Roque, -rōk.
Sakhalin, sä-khä-lēn′.
Salisbury, sạlz′bẹr-ĭ.
Saloniki, sä-lō-nē′kē.
Salvador, säl-vä-dōr′.
Salzburg, sälts′bōōrg.
Samarkand, säm-ạr-känd′.
Samoa, sä-mō′ä.
San Antonio, săn ăn-tō′nĭ-ō.
San Bernardino, -bẽr-när-dē′nō.
San Cristobal, -krēs-tō bäl.
Sandhurst, sănd′hụrst.
San Diego, săn dē-ā′gō.
Sandusky, săn-dŭs′kĭ.
San Francisco, -frăn-sĭs′kō.
San Joaquin, săn hō-ä-kēn′.
San José, -hō-sā′.
San Juan, -hōō-ăn′.
San Lucas, -lōō′kạs.
San Luis, -lōō-ēs′.
San Marino, -mä-rē′nō.
Santa Barbara, săn′tạ-bär′bạ-rạ.
Santa Fé, -fā.
Santee, săn′tē′.
Santiago, sän-tē-ä′gō.
Santo Domingo, sän′tō dō-mēn′gō.
Saône, sōn.
Saratoga, săr-ạ-tō′gạ.
Sardinia, sär-dĭn′ĭ-ạ.
Saskatchewan, săs-kăch′ẹ-wạn.
Sault Sainte Marie, sōō sĕnt mā′rĭ.
Savannah, sạ-văn′ạ.
Scandinavia, skăn-dĭ-nā′vĭ-ạ.
Schenectady, skẹ-nĕk′tạ-dē.
Scilly, sĭl′ĭ.
Scotland, skŏt′lạnd.
Scranton, skrăn′tọn.
Seattle, sē-ăt′l.
Sedalia, sē-dā′lĭ-ạ.
Seine, sān.
Seneca, sĕn′ẹ-kạ.
Senegal, sĕn-ẹ-gạl′.
Senegambia, sĕn-ẹ-găm′bĭ-ạ.
Seoul, sā-ōōl′.
Servia, sẽr′vĭ-ạ.
Severn, sĕv′ẹrn.
Shanghai, shăng-hä′ĭ.
Shannon, shăn′ọn.
Shasta, shăs′tạ.
Sheffield, shĕf′fēld.
Shenandoah, shĕn-ăn-dō′ạ
Shetland, shĕt′lạnd.
Shoshone, shō-shō′nē.
Shreveport, shrēv′pōrt.
Siam, sĭ-ăm′.
Siberia, sĭ-bē′rĭ-ạ.
Sicily, sĭs′ĭ-lĭ.
Sierra Madre, sē-ĕr′ạ-mä′drā.
Singapore, sĭn-gạ-pōr′.
Sioux, sōō.
Sitka, sĭt′kạ.
Smyrna, smẽr′nạ.
Snowdon, snō′dọn.
Sofia, sō-fē′ä.
Sokoto, sō-kō-tō′.
Solway, sŏl′wā.
Somali, sō-mä′lē.
Somerville, sŭm′ẹr-vĭl.
Spokane, spō-kăn′.
Staffa, stăf′ạ.
Stanovoi, stä-nō-voi′.
Steubenville, stū′bẹn-vĭl.
Stirling, stẽr′lĭng.
Stockholm, stŏk′hōlm.
Strassburg, străz′bûrg.
Stuttgart, stōōt′gärt.
Suakin, swä′kĭn.
Sucre, sōō′krẹ.
Sudan, sōō-dän′.
Suez, sōō-ĕz′.
Suisun, sōō-ē-sōōn′.
Sulaiman, sōō-lē-män′.
Sumatra, sōō-mä′trä.
Sunda, sŭn′dạ.
Sunderland, sŭn′dẹr-lạnd.
Susquehanna, sŭs-kwẹ-hăn′ạ.
Suwannee, sū-wạ′nē.
Swansea, swŏn′sē.
Sweden, swē′dẹn.
Switzerland, swĭt′zẹr-lạnd.
Sydney, sĭd′nĭ.
Syracuse, sĭr′ạ-kūs.
Syria, sĭr′ĭ-ạ.

Tabriz, tä-brēz′.
Tacoma, tä-kō′mä.
Tagus, tā′gŭs.
Tahoe, tä-hō′.
Tahlequah, tä′lē-kwä.
Tallahassee, tăl-ạ-hăs′ē.
Tampa, tăm′pạ.
Tampico, täm-pē′kō.
Tananarivo, tä-nä′nä-rē-vō.
Tanganyika, tän-gän-yē′kä.
Tarim, tä-rēm′.
Tashkend, täsh-kĕnd′.
Tasmania, tăz-mā′nĭ-ạ.
Taunton, tän′tọn.
Taurus, tạ′rŭs.
Tchad, chäd.
Teherân, tẹ-hrän′.
Tehuantepec, tā-wän-tā-pĕk′.
Tennessee. tĕn-nẹs-sē′.
Terre Haute, tĕr-ẹ-hōt′.
Thames, tĕmz.
Thianshan, tē-än′shän.
Tiber, tī′bẹr.
Tibet, tĭ-bĕt′ *or* tĭb′ĕt.
Tientsin, tē-ĕn′tsēn.
Tierra del Fuego, tē-ĕr′rä-dĕl-fwā′gō.
Tiflis, tĭf-lēs′.
Tigris, tī′grĭs.
Timbuktu, tĭm-bŏŏk′tōō.
Titicaca, tĭt-ē-kä′kä.
Tocantins, tō-kän-tēns′.
Tokyo, tō′kē-ō.
Toledo, tō-lē′dō.
Tombigbee, tŏm-bĭg′bē.
Tonga, tŏn′gạ.
Topeka, tō-pē′kạ.
Toronto, tō-rŏn′tō.
Torrens, tŏr′rẽnz.
Toulon, tōō′lōɴ.
Toulouse, tōō′lōōz′.
Transvaal, trăns-väl′.
Traverse, trăv′ẹrs.
Trieste, trē-ĕst′.
Trinidad, trĭn′ĭ-dăd′.
Tripoli, trĭp′ọ-lĭ.
Tucson, tū-sŏn′.
Tulare, tōō-lä′rē.
Tunis, tū′nĭs.
Turin, tū′rĭn.
Turkestan, tōōr-kĭs-tän′.

Ucayale, ōō-kī-ä′lā.
Uinta, ū-ĭn′tạ.
Ujiji, ōō-jē′jē.
Ural, ū′räl.
Uruguay, ōō-rōō-gwī′.
Utah, ū tä *or* ū′tạ.
Utica, ū′tĭ-kạ.

Valdai, väl′dĭ.
Valencia, vạ-lĕn′shĭ-ạ.
Valparaiso, väl-pä-rī′sō.
Vancouver, văn-kōō′vẹr.
Vega, vē′gạ.
Venezuela, vĕn-ẹ-zwē′lạ.
Venice, vĕn′ĭs.
Vera Cruz, vā′rä krōōs′.
Verde. vẽrd.
Vermont, vẹr-mŏnt′.
Vesuvius, vē-sū′vĭ-ŭs.
Vienna, vē-ĕn′ạ.
Vincennes, vĭn-sĕnz′.
Virginia, vẹr-jĭn′ĭ-ạ.
Vistula, vĭs′tū-lạ.
Viti Levu, vē′tē lā′vōō.
Vladivostok, vlä-dē-vōs-tōk′.
Volga, vŏl′gä.
Vosges, vōzh.

Wabash, wạ′bạsh.
Wachusett, wạ-chū′sẹt.
Waco, wā′kō.
Warsaw, wạr′sạ.
Wasatch, wạ′săch.
Waterloo, wạ-tẹr-lōō′.
Welland, wĕl′ạnd.
Wellington, wĕl′ĭng-tọn.
Wenner, vā′nẹr.
Wetter, vĕt′tẹr.
Wichita, wĭch′ĭ-tạ.
Wilkesbarre, wĭlks′băr-ĭ.
Willamette, wĭl-ä′mĕt.
Wilmington, wĭl′mĭng-tọn.
Winnepesaukee, wĭn-ē-pẹ-sạ′kē.
Winnepeg, wĭn′ĭ-pĕg.
Winona, wĭ-nō′nạ.
Winooski, wĭ-nōōs′kĭ.
Wisconsin, wĭs-kŏn′sĭn.
Woonsocket, wōōn-sŏk′ẹt.
Worcester, wōōs′tẹr.
Wyoming, wĭ-ō′mĭng.

Yablonoi, yä-blō-noi′.
Yakima, yăk′ĭ-mä.
Yakutsk, yä-kōōtsk′.
Yangtze, yăng′tzē.
Yarkhand, yär-känd′.
Yazoo, yä-zōō′.
Yenisei, yĕn-ē-sā′ē.
Yesso, yĕs′sō.
Yokohama, yō-kō-hä′mä.
Yonkers, yŏɴk′ẹrs.
Yosemite, yō-sĕm′ĭ-tē.
Yucatan, yōō-kä-tän′.
Yukon, yōō′kŏn.

Zambezi, zäm-bā′zẹ.
Zanzibar, zän′zĭ-bär.
Zululand, zōō′lōō-lạnd.
Zurich, tsū′rĭk.
Zuider Zee, zoi′dẹr zā′.

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